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### A Comparison of Values of Board Chairmen and Educational Administrators in Seventh-day Adventist Residential Academies, Colleges, and Universities in the United States of America and Canada

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AND EDUCATIONAL ADMINISTRATORS IN SEVENTH-DAY ADVENTIST  
RESIDENTIAL ACADEMIES, COLLEGES, AND UNIVERSITIES  
IN THE UNITED STATES OF AMERICA AND CANADA**

**A Dissertation  
Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Education**

**by  
David Birkenstock**


**June 1976**

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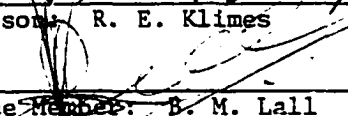
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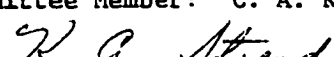
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ABSTRACT

A COMPARISON OF VALUES OF BOARD CHAIRMEN AND EDUCATIONAL  
ADMINISTRATORS IN SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMIES,  
COLLEGES, AND UNIVERSITIES IN THE UNITED STATES OF AMERICA  
AND CANADA

by

David Birkenstock

Chairperson: Rudolf E. Klimes

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

Department of Education

Title: A COMPARISON OF VALUES OF BOARD CHAIRMEN AND EDUCATIONAL ADMINISTRATORS IN SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMIES, COLLEGES, AND UNIVERSITIES IN THE UNITED STATES OF AMERICA AND CANADA

Name of researcher: David Birkenstock

Name and title of faculty adviser: Rudolf E. Klimes, Ph.D.

Date completed: June 1976

Problem

An important concern of administrators is assessing the role of values in education. A high degree of values congruency between board chairmen and educational administrators seems essential for educational institutions to function effectively. The purpose of the study was to assess the degree of values congruency between Seventh-day Adventist board chairmen and educational administrators.

Method

The Allport, Vernon, and Lindzey Study of Values scale, which furnished relative scores for six value classifications--aesthetic, economic, political, religious, social, and theoretical--was selected



for the study. A personal data sheet was developed for the subjects of the study.

Ten hypotheses were developed for the study. The first six hypotheses related to the major purpose of the study and held that there is a significant difference between the six value scores of board chairmen and educational administrators as measured by the Study of Values scale. The four hypotheses for the corollary purposes of the study held that there is a significant difference between the six value scores of board chairmen and educational administrators based on the independent variables of age, non-administrative experience, years of administrative experience, highest degree held, major field of study, years of schooling in Seventh-day Adventist educational institutions, enrollment of educational institutions, and level of educational institution, as measured by the Study of Values scale.

The Study of Values scale and a personal data sheet were mailed to fifty-two board chairmen and fifty-nine educational administrators. The board chairmen, clergymen by profession and training, held executive positions, such as local conference presidents, union conference presidents, and vice-presidents of the General Conference, in the Seventh-day Adventist church. The educational administrators were principals and presidents of Seventh-day Adventist owned and operated residential academies, colleges, and universities. Thirty-three usable responses were returned by board chairmen, or 63.4 percent, and forty-five by educational administrators, or 76.2 percent, giving a total response of 70.2 percent.

Two statistical procedures were used in the study: 1) a one-way multivariate analysis of variance, and 2) a discriminant analysis

for several groups, conducted for those comparisons which were statistically significant for the analysis of variance. A .05 level of confidence was set for rejecting the null hypotheses on all of the comparisons.

### Results

No statistically significant differences on the six value scores of board chairmen and educational administrators were obtained. However, seven significant differences were obtained on the comparisons for the independent variables. On some comparisons the following independent variables had significant differences: years of administrative experience, highest academic degree held, major field of study, years of schooling in Seventh-day Adventist educational institutions, enrollment of educational institutions, and level of educational institution.

On five statistically significant comparisons the economic, political, religious, social, and theoretical values discriminated between the board chairmen and educational administrators according to the discriminant analysis.

### Conclusions

The following main conclusions emerged from the study:

1. That a high degree of congruency, with direct implications for policy making in educational institutions, existed between the values of board chairmen and educational administrators
2. That educational administrators had a unique value orientation with a high ranking of the religious, political, and social values

3. That board chairmen had similar value rankings to other clergymen on religious, social, and political values but differed markedly from other clergymen on the economic value

4. That social and economic values discriminated best between board chairmen and educational administrators

5. That subjects were more likely to have dissimilar value orientations when they had had more than ten years of administrative experience

6. That principals of smaller residential academies tended to place a higher priority on social and economic values than did principals of larger residential academies

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## CHAPTER I

### INTRODUCTION

Educational leaders are faced with alternate choices at every level of school, college, or university operation. The course of action chosen depends on the values held by the educational leaders, for values serve as the normative standards by which choices are made. Values affect the decisions made regarding objectives, finances, personnel; even the kind of buildings erected at an educational institution are founded on some system of values. Decisions are complicated in any educational situation by the conflicting value systems of educational leaders.

A cursory review of the current educational issues in public and parochial schools will substantiate the fact that conflict exists in the boards of education responsible for policy decisions. In parochial schools, issues concerning discipline, sex education, relevancy of Bible instruction, moral education, and standard of education result in conflicts that are rooted in value differences. In parochial schools various groups--parents, teachers, students, constituency members, and ministers--clamor for a say in directing the affairs of the school. They want a greater say in how the finances are managed, which programs are to be promoted or cut, and which objectives are relevant for the future. The divergent views on these and other issues result from differences in values.

In the decision-making process the use of values is unavoidable. The competing and complex sets of values of diverse groups and individuals make education planning exceedingly complex. Understanding values of groups and individuals is imperative for organized planning and decision making in any school system. Unfortunately, empirical knowledge of values is limited, and so little can be said of the areas of agreement or conflict among groups in the school. Nevertheless, value studies have been found useful in describing and explaining the differences between groups and individuals and the values approach has proved to be particularly useful in explaining human behavior and clarifying choices. Burnett (1968) commented that much remained to be done in the field of values and culture where "there is great ignorance and little knowledge" (p. 14). This study seeks to lessen the ignorance by examining the values of board chairmen and educational administrators in the Seventh-day Adventist educational system.

#### Statement of the Problem

Educational administrators and board chairmen work very closely together in directing the educational program. A high degree of congruency in values held by these two groups of individuals seem essential for an educational institution to function effectively. In discussing relationships of superintendents and board members, Abbott (1960b) stated that "harmonious relationships between the superintendent and members of his board are essential to the effective operation of the school system" (p. 71).

Seventh-day Adventist board chairmen hold one of the highest administrative positions in the church and have predominantly theological training as their educational background. It, therefore, appeared possible that the Seventh-day Adventist educational administrator with educational training and background, would hold values different from those of the Seventh-day Adventist board chairman. This seeming incongruity of values could lead to conflict during the decision-making process and affect the policies formulated within the educational system (Ostrander & Dethy, 1973, p. 136).

At the time of the present study there was no clear understanding of the congruency or incongruency of values held by board chairmen and chief educational administrators (principals of Seventh-day Adventist residential academies and presidents of Seventh-day Adventist colleges or universities) in the Seventh-day Adventist educational system.

#### Purpose of the Study

The purpose of the study was to determine the significant differences in the values held by the board chairmen and the chief educational administrators of Seventh-day Adventist residential academies, colleges, and universities, as measured by the Allport, Vernon, and Lindzey (1960) Study of Values: A Scale for Measuring the Dominant Interest in Personality (hereafter referred to as the Study of Values). Corollary purposes are:

1. To describe the values of Seventh-day Adventist board chairmen and chief educational administrators



2. To determine if there are any significant differences in the values held by the board chairmen and the chief educational administrators based on the independent variables of age, years of administrative experience, non-administrative experience, highest academic degree held, major field of study, and the number of years of schooling in Seventh-day Adventist educational institutions

3. To determine if there are any significant differences in the values of three groups of chief educational administrators based on the independent variable of the enrollment of the educational institution

4. To determine if there are any significant differences in values held by residential academy board chairmen and residential academy principals

5. To determine if there are any significant differences in values held by college or university board chairmen and college and university presidents

#### Importance of the Study

In recent years the work of researchers like Baier, Harmin, Kohlberg, Raths, Rescher, Simon, Williams, and others focused the attention of educators on the role of values in education. Despite the renewed emphasis on values, only limited research has been completed on this area during the past fifteen years. The paucity of studies in this field could be attributed to the belief that values were not amenable to empirical studies (Robinson & Shaver, 1969, p. 406, 407).

In the general field of values, a few studies were conducted on the values held by superintendents, principals, teachers, students, and board members.

An extensive review of the literature revealed that, as far as could be ascertained, a comparison of the values of school board chairmen and chief educational administrators had not been attempted. The reason could possibly be that school board chairmen do not generally form a homogeneous group but represent every aspect of the society as a whole. In this study, however, the board chairmen in the Seventh-day Adventist educational system represented a homogeneous group. They held the highest administrative positions in the Seventh-day Adventist church and had theological training as their professional background. As far as could be ascertained, the values of neither educational administrators nor school board chairmen in the Seventh-day Adventist educational system had been investigated. This study attempted to contribute to the Seventh-day Adventist educational system by describing and comparing the values of these groups as measured by the Study of Values.

The study not only indicates the values of educational administrators and school board chairmen but also reveals which values are not highly regarded. Apparently some values not highly regarded are desirable, or even essential, for an educational program; knowledge of essential values could help to effect curriculum changes. Gross (1958, p. 444) recognizing the importance of the role of values, stated that the attitudes and beliefs of educational decision-makers exerted an influence on the kind and quality of education offered.

The study, by comparing the values of school board chairmen and chief educational administrators and using the Study of Values scale, sought to reveal the extent of value congruency between the two groups. It seemed that an incongruency of the values between the two groups could have a far-reaching, deleterious effect on an educational program. The data gained from the study could be used to stimulate further research of the Seventh-day Adventist educational system, particularly the training of educational administrators.

#### Delimitations

This study attempted to determine the values held by board chairmen and chief educational administrators in residential academies, colleges, and universities operated by the Seventh-day Adventist church in the United States of America and Canada, as measured by the Study of Values. It did not seek to imply what effect these values had on the educational institution or how these values were perceived by other groups in the school.

The study was limited to those educational institutions owned and operated by the Seventh-day Adventist church.

#### Assumptions

This study was based on the following assumptions:

1. Both the board chairman and the chief educational administrator were cognizant of the role of values in administration and functioned within a framework of values as measured by the Study of Values

2. The Study of Values measured the values in personality
3. The board chairman and chief educational administrator had a major influence on the educational program of the school
4. The values of board chairmen and chief educational administrators provided an insight into the goals and objectives of educational institutions

### Theoretical Framework

The prime purpose of organization is to relate people to goals. Mooney (1947) stated that "organization is the form that is required for human association to attain common purposes" (p. 1). The type of organization established is dependent upon a number of factors and the organizational structure is unique. Ostrander and Dethy referred to this when they pointed out:

. . . that any organizational structure is a highly unique thing. Concepts and ideas about structure are generalizable in many cases but the specific structure must be a product of the program, people and environment that it is to serve (1973, p. 98).

Schools have a unique organizational structure with an administrative pattern different from any business or industrial organization, despite the similarities that do exist in all types of organizations (Ostrander & Dethy, 1973, p. 74).

Organizational theorists have had difficulty in trying to conceptualize the role of educational organizations within the general organizational models. It seemed that professional organizations did not fit into the general model of complex organizations. Satow (1975) cited a number of theorists who emphasized that Weber's con-

cept of bureaucracy was inadequate when applied to organizations in which professionals dominated (p. 526). The general view of professional organizations by theorists had been that of deviant bureaucracies (Satow, 1975, p. 530).

Weber made provision for three types of authority, namely, the rational-legal, the traditional, and the affectual, as well as for four types of social action: the purposive-rational, the value-rational, the traditional, and the affectual. Examining types of authority and types of social action suggested that there was a place for a fourth type of authority within the Weber framework—the value-rational authority which corresponded with the value-rational one in social action. Satow (1975) suggested that this fourth type of authority was based on obedience being given to ideology and ideological norms rather than formal laws or rules of the organization (p. 527). The role of those in authority was clarified by Satow (1975) as follows:

Those in authority are, therefore, also obliged to obey the norms in giving orders and the content of the orders are legitimized by their relationship to the goals of the ideology. The basis for recruitment into and placement in the organization is a combination of competence and faith in the ideology (p. 527).

The value-rational organization was not just a deviant of Weber's typology but a distinct, unique form and a logical outcome of an organization that was strongly committed to an ideology (Satow, 1975, p. 530). It seemed that the value-rational type of organization was best suited to professional organizations. Professionals emphasized self-government for their professions and

autonomy for each member and loyalty to the profession or the professional group. The professional norms took precedence over the commitment to the organization and division of labor was based on occupations rather than on tasks (Satow, 1975, p. 529). The moral characteristic of professional norms clearly separated the professional from the bureaucrat (Satow, 1975, p. 529).

The theoretical constructs of the value-rational organization seemed to meet the needs of professional organizations. The norms and ideology of the profession transcended the rules and regulations of a bureaucracy. The leaders of the value-rational organization acted in harmony with the norms and ideology of the professional group they were serving. This type of organization could only function effectively and reach its goals if there was close agreement among the leaders on the norms and values of the profession.

Educational theorists most commonly classified the school as a social system (Getzels & Guba, 1957, p. 434). Others saw the school not only as a social system but also as a normative organization (Leonard & Gies, 1971, p. 18). One of the best known conceptual models of the school as a social system was the one developed by Getzels and Guba (1957, pp. 423-441). Lipham and Hoeh (1974) characterized the model as follows:

The school may be conceived as a social system involving two classes of phenomena that are independent and at the same time interactive. These are, first, the institutions, having certain roles and expectations, that will fulfill the goals of the system, and second, the individuals, having certain personalities and need-dispositions, who inhabit the system. The social behavior of those inhabiting the system may be understood as a function of these major elements: institution,

role, and expectation, which together constitute the normative or nomothetic dimension; and the individual, or idiographic dimension of activity in a social system. To understand, predict, or control observed behavior in a social system, one must understand the nature and interaction of the elements (pp. 49, 50).

Getzels and Thelen (1960) enlarged the basic model to include other dimensions, particularly the place of cultural values and their influence on the institution and the individual.

Whether the school is viewed as a professional organization with the value-rational type of authority or whether the school is seen as a social system there are certain common elements. Both types of organizations take into account the role and place of norms and values; both are normative organizations. The values of organizations were closely tied to function as noted by Leonard and Gies (1971):

. . . , the values held by the interacting members of a school organization are closely associated with the functional dimensions of the organization, which, in turn, affects the achievement of the organizational goals. If there is a complete lack of consensus with regard to values that relate to the goals and the means of attaining the goals, a dysfunctional element is operating within the organization (pp. 17, 18).

It seems theoretically, for an organization to function effectively there must be a high degree of consensus between values and goals. This was particularly true for normative organizations where a high degree and wide range of consensus was essential. Etzioni (1961) stated that "normative organizations require both a high degree and a wide range of consensus. Dissensus in any area, in particular with respect to values, goals, and means is dysfunctional for the achievement of organizational goals" (p. 136).

The rationale for this study was in examining the consensus of values between board chairmen and educational administrators in a normative organization. These two groups of leaders to a large extent influenced the value-orientations and goals of the institutions they served. A high degree of consensus seemed necessary if the educational organization was to reach its goals, whether viewed as a value-rational organization or as a social system.

### Hypotheses

It was expected that a significant difference would be found on each of the six variables as measured by the Study of Values scale between the scores of school board chairmen and chief educational administrators. The first six hypotheses related to the major purpose of the study while the last four hypotheses listed related to the corollary purposes of the study. The hypotheses were as follows:

1. There is a significant difference between the scores of board chairmen and chief educational administrators on the aesthetic value as measured by the Study of Values scale

2. There is a significant difference between the scores of board chairmen and chief educational administrators on the economic value as measured by the Study of Values scale

3. There is a significant difference between the scores of board chairmen and chief educational administrators on the political value as measured by the Study of Values scale

4. There is a significant difference between the scores of



the board chairmen and chief educational administrators on the religious value as measured by the Study of Values scale

5. There is a significant difference between the scores of board chairmen and chief educational administrators on the social value as measured by the Study of Values scale

6. There is a significant difference between the scores of board chairmen and chief educational administrators on the theoretical value as measured by the Study of Values scale

7. There is a significant difference between the scores of board chairmen and chief educational administrators based on the independent variables of age, non-administrative experience, years of administrative experience, highest degree held, educational major, and the number of years of schooling in Seventh-day Adventist institutions on the six values as measured by the Study of Values scale

8. There is a significant difference between the scores of different groups of chief educational administrators based on the independent variable of enrollment in academy, college, or university on the six values as measured by the Study of Values scale

9. There is a significant difference between the scores of residential academy board chairmen and residential academy principals on the six values as measured by the Study of Values scale

10. There is a significant difference between the scores of college and university board chairmen and college and university presidents on the six values as measured by the Study of Values scale

### Definition of Terms

As used in the study, the meanings attached to specific terms were as follows:

Academy is the name applied by Seventh-day Adventists to their secondary schools in the United States of America and Canada. These four-year academies are operated as residential and/or non-residential schools (also called boarding or non-boarding schools).

Board Chairman in this study refers to the presiding officer of the board in Seventh-day Adventist residential academies, colleges, and universities.

Chief Educational Administrator is defined as the principal of a Seventh-day Adventist residential academy or the president of a Seventh-day Adventist college or university.

General Conference is regarded as "the central governing organization of the Seventh-day Adventist church composed of such union conferences and union missions as have been properly organized and accepted by vote of the General Conference in session" (Neufeld, 1966, p. 432).

Local Conference is defined as "a unit of Seventh-day Adventist church organization composed of the local churches within a given area such as a state" (Neufeld, 1966, p. 298).

Residential Academy is a four-year secondary school with boarding facilities for students.

Seventh-day Adventist Church is a world-wide Christian

denomination, which, among other functions, also operates parochial schools, colleges, and universities.

Union Conference is defined as "a unit of church organization formed by a group of several local conferences" (Neufeld, 1966, p. 1341).

Values may be defined as those "conceptions of desirable states of affairs that are utilized in selective conduct as criteria for preference or choice or as justifications for proposed or actual behavior" (Williams, 1967, p. 30).

#### Organization of the Study

Chapter I contains the introduction to the study, statement of the problem, purpose of the study, significance of the study, and delimitations. The chapter further contains definitions of terms, assumptions, a theoretical framework, hypotheses, and the organization of the study.

Chapter II contains a review of the literature relating to the values of educational administrators and board chairmen.

Chapter III contains a description of the methods and procedures used in the study.

Chapter IV contains the analysis of the data.

Chapter V contains the summary, conclusions, and the recommendations.

## CHAPTER II

### REVIEW OF LITERATURE

The extensive body of literature on values necessitated a selective approach to the survey of literature for this study. Three areas were reviewed: The first area formed the background for the other two areas by focusing on the general area of values; the second area surveyed the values of board members and board chairmen in particular; and the third area reviewed the literature on the values of educational administrators with special reference to the values of principals and superintendents.

#### General Values

Valuing has always been a unique ability. Rich (1968) aptly stated ". . . to be human is not only to be self-conscious and aware of oneself in the world, but to value. For man is a creature who values" (p. 155). In further elaborating this theme, Rich (1968) stated that "man cannot be fully human unless he invariably makes independent moral judgments, assumes full responsibility for them, and strives to construct a meaningful system of value" (p. 158).

It was difficult to define values. The term had many and varied connotations in ordinary speech. When used as a technical term in the various fields of study, it had numerous meanings (Kluckhohn, 1959, pp. 389, 390). Because the nature of values has

always been complex, there seemed to be little consensus on definitions. Raths, Harmin, and Simon (1966) pointed out:

About the only agreement that emerges is that value represents something important in human existence. Perhaps because it is such a pivotal term, each school of thought invests it with its own definition. For the same reason, a particular definition is not often acceptable elsewhere (pp. 9, 10).

Because of their complexity, values have fascinated philosophers for millennia, being inextricably woven into language, thought and behavior patterns. Yet despite the decisive role of values in human motivation, men were ignorant of the laws that governed them. According to Toffler (1969) it was Weber who, more than seventy years ago, referred to the term ". . . 'value' as 'that unfortunate child of misery of our science.' It is still a fair description of the place occupied by the concept of value in the social sciences" (p. 3).

The four conceptual possibilities of defining values were outlined by Adler (1956). In the first approach, values were considered as absolutes, existing in the mind of God as eternal ideas, as independent validities. Second, values were considered as being in the object, material or non-material and having the potential to satisfy needs or desires. The third approach was to see values as located in man, originating in his biological needs or in his mind and known as psychological phenomena, internal states or internal behavior. Finally, values were conceptualized in terms of action (pp. 272-79). According to Robinson and Shaver (1969), most psychologists preferred Adler's third approach to values. Values

became a hypothetical construct--a kind of "meta-attitude," not directly accessible to observation but inferable from verbal statements and other behaviors (p. 408).

The early attempts to characterize values was made mainly by anthropologists and sociologists (Robinson & Shaver, 1969, p. 406) and was largely ignored by psychologists for various reasons, one being, the belief that values could not be empirically investigated (Robinson & Shaver, 1969, p. 407). In recent years, the investigation of values has become accepted (Blackmon, 1968b, p. 7). The prime focus of the studies on values by psychologists has been on the measurement of the values of groups and individuals, on the investigation of the origin and development of values within the individual, and on the measuring of the influence of an individual's values on his cognitive life (Dukes, 1955, p. 24).

In the theory of values the main problem, according to Rescher (1969), has been concerned with what can be valued and what are the entities that are the bearers of value (p. 57). Kluckhohn (1959) indicated that:

Values are manifested in ideas, expressional symbols, and in the moral and aesthetic norms evident in behavioral regularities. Whether the cognitive or the cathectic factors have primacy in the manifestation of a value at a particular time, both are always present (p. 394).

Values are seen primarily in the context of deliberation and decision making, and in the explanation of human behavior (Rescher, 1969, p. 20, 21). It has been contended that man's espousal of values was bound up with two aspects, namely, man's having needs and

desires, and his capacity for reason. Values, then, were rooted in the view that man was seen as a goal-oriented organism seeking satisfaction and avoiding dissatisfaction (Rescher, 1969, pp. 9, 10).

Overstreet (1931) contended that the most powerful factor or force in an individual's life was his philosophy. He further stated that an individual's philosophy of life was the fundamental principle of choice and that this most enduringly determined what the individual selected out of the heterogeneity of existence (p. 12).

One further aspect of the nature of values is that "values are essentially relative--not only to the culture but also to the diverse varieties of human nature in history and relative to opportunities and limitations of human situations" (Worthen, 1968, p. 71).

Values do not operate in a vacuum, but are a function of the individual. Each individual makes his own choice of the components for his personal value system (Ostrander & Dethy, 1968, p. 6). Values are also the function of the total environment; the values chosen depended upon the mores of the family and of the community in which the individual was born and reared (Ostrander & Dethy, 1968, pp. 6, 7). Time played a role in values, for as the individual grew, so value choices were made in accordance with his maturation (Ostrander & Dethy, 1968, p. 7). Individualization, total environment and time formed the backdrop for an understanding of values in society.

The problems that society has faced have called attention to

the place of values in society; and as Raths, Harmin, and Simon (1966) pointed out, one of the penalties that men pay for the complexities of these times is in the realm of values--it has been more difficult to have clear values (p. 15). In discussing the conflict of the sixties, Getzels (1972) stated:

The most searing experiences during the middle and late sixties, the confrontation between parent and child, teacher and pupil, professor and student, reflected not only the self-evident differences in age, differences between young and old which were surely not unique to that time, but differences in not so evident values, differences exacerbated by the rapid transformation our values had been undergoing and which were unique (p. 506).

The central problem for many growing up, according to Getzels (1972), ". . . is the rapid transformation our values have been undergoing--a circumstance which denies them an explicit and stable set of values from which to choose and with which to identify" (p. 505). After presenting a number of colloquies on values, Henry (1963) suggested that the values of parents may not be a guide to a full life, but that values are for many people "a deadfall rather than a guide to life" (p. 444).

Expressing concern for the value changes in society, the Michigan State Department of Education (1968) stated:

It has become a truism to say that in today's society, change has become so rapid and so constant that one of the few things we can be sure of is change itself. . . . One social commentator has said, in fact, that life in today's society of change is not unlike 'life inside a centrifuge,' and the speed of change is threatening to take away the very core of meaning from life (p. 2).

These rapid changes in society and culture and especially the rapid



changes of the recent past have thrown values into conflict (Thompson, 1970, p. 311).

Despite the complexity that a study of values may entail there were those who believed that values were amenable to scientific study. As Brameld (1965) stated: "I hold also that values may be just as amenable to scientific study and testing as any other phenomenon in nature" (p. 97).

The central meaning of the term value was a conception of the desirable that influenced the selection of one course of action from among possible alternatives (Rose, 1968, p. 1). In the words of Parker (1963), every value depended ". . . upon the existence of something variously called appetite, wish, desire, interest--a fact which some psychologists are loathe to admit, but which they always end by admitting under another name" (p. 43). According to Kluckhohn (1959):

A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, and ends of action. . . . It should be emphasized here, however, that affective ("desirable"), cognitive ("conception"), and conative ("selection") elements are all essential to this notion of value (p. 395).

Since values are such a complex proposition involving the affective, the cognitive, and the conative, they must be accorded a central place in understanding human behavior. Recognizing the role values play in understanding human behavior, Rose (1968) suggested that it would appear useful to give attention to them in studies of educational administration (p. 1).

Values seem to be such an intrinsic part of man's life that it appears that he is born with a ready-made set of values (Getzels, 1958, p. 160). But Gutch and Tagiuri (1965) pointed out that values are acquired very early in life and are transmitted to the child through parents, teachers, and other significant persons in the environment who in turn acquired their values in a similar fashion (p. 125). Just how this takes place is not fully understood. As Thompson (1962) observed: "Psychologists are not completely certain how children acquire the fairly stable value-systems of adult life" (p. 527). However, researchers were agreed that the most powerful factor in the acquisition of values was called identification (Erickson, 1962, pp. 2, 4; Getzels, 1958, p. 160; Miller & Hutt, 1949, pp. 2-30). Getzels (1958) pointed out that the acquiring of values was a complex procedure:

The child's learning, or perhaps better here 'interiorizing,' of social values is a much more intimate and complex process. Learning, imitation, conscious emulation plays a part, to be sure. But the fundamental mechanism by which we interiorize values, in school as elsewhere, is identification (p. 160).

Along the same theme, Purpel and Ryan (1975) spoke of modeling as a powerful technique for moral education (p. 662). Erickson (1962) succinctly summed up values acquisition by stating: "Values, in other words, seem to be acquired through socialization, not logic; by exposure to human beings, not ideas; in response to exemplification, not exhortation" (p. 2).

The individual could only acquire a stable set of values if ". . . these values impinge upon him with insistency and consistency from his total milieu. They must be personified in powerful

visible, and congenial 'others' in his world" (Erickson, 1962, p. 4). The problem of rapidly changing values has brought confusion to the child and undermined the ground for acquiring stable values. Significant persons give inconsistent and contradictory models and this leads to conflict and anxiety (Getzels, 1968, pp. 160, 161). To incorporate the parents' values could mean rejecting the teachers'--to accept the teachers' values could mean rejecting community values--to accept the community hero's values could mean the rejection of the religious leaders' values.' It was difficult to have identification, for to accept the one was to reject the other (Getzels, 1957, pp. 100, 101).

One of the ways in which values have been manifested is through the choices individuals made. As Getzels (1972) pointed out, the choices people make are founded on some system of values (p. 506). A number of authorities agreed that values and choices could not be separated and that values referred to implicit standards for choices and evaluations (Blackmon, 1968a, p. 97; Kluckhohn, 1959, p. 402; Mesthene, 1970, p. 49; Parker, 1953, pp. 45, 46; Worthen, 1968, p. 71). Kluckhohn (1959) implied inversely that an insight into values could be obtained by a careful analysis of choices (p. 408).

In education, the decisions and choices of educational administrators could be improved if values were taken into account.

Although factual information is vital in planning for action, decisions ultimately are based upon the conceptions individuals have of the desirable or the good. Administrative relationships

may be improved, therefore, through clarification of the values that underlie approaches to educational problems (Abbott, 1960a, p. 4).

The educational administrator should not only recognize that values play a role in the decision-making process but should also be aware that values serve as a screen through which decision alternatives are filtered. Administrative relationships might be improved if the educational administrator made explicit the values on which his decisions were based (Lipham & Hoeh, 1974, p. 88). Values have a central place in understanding choices, decisions, and behavior. As Rescher (1969) stated: "A man's values are both clues to guide another's explanation of his actions and guides to his own deliberations in the endeavor to arrive at decisions" (p. 29).

The behavior of an individual was definitely influenced by his values (Raths, Harmin & Simon, 1966, p. 4). What was not so clear was the extent of the effect of values on behavior and whether values could be inferred from observed behavior. In the words of Lee (1959): "We can speak about human values, but we cannot know them directly. We infer them through their expression in behavior" (p. 165). Three basic viewpoints were suggested by Williams (1967) in explaining human behavior. The first view was that behavior was the result of conditions, made up of physical, biological, and social elements; in this view values were denied a role. The second view took the other extreme and stated that all behavior was the sheer emanation or expression of values. The third view was an intermediate view that took conditions as independent and primary, and values

as intervening in these conditions (pp. 24, 25). Erickson (1962) commented on the difficulty of inferring values from behavior by stating that ". . . the task of inferring values from observed behavior is not as simple as is sometimes thought" (p. 2).

In discussing the extent that values are manifested in human behavior, Williams (1967) recognized that not all human behavior is caused by values. "Values are manifest in human behavior, but not all behavior shows forth values: physiological activities are not values, nor are sheer reflex acts" (p. 23). Human behavior was explained by Erickson (1962) in terms of two factors. He stated:

It seems that human behavior cannot be explained simply in terms of the individual's biological and psychological needs and the current demands on referent groups. Most adults appear to modify their immediate impulses in terms of larger considerations. These considerations are in part a product of awareness of (1) a cathectic factor--what one wants to do in the immediate sense--and (2) a cognitive factor--what one feels one ought to do in some overarching sense (p. 1).

According to Sjogren, England, and Meltzer (1969), who discussed a theoretical model that was developed to show the relationship of values to behavior, there were two primary ways in which values could influence behavior: behavior channeling and perceptual screening. Behavior channeling was seen when an individual was faced with a questionable proposition and his behavior was channeled away from that proposition as a direct result of his operative values. Perceptual screening was seen as the power of personal values to select, filter, and influence interpretation of what one "sees" and "hears" as was intimated in the common expression, "he hears only what he already agrees with." Perceptual screening was well known

in common experience and in the scientific study of behavior (p. 6). In a general sense an individual's behavior was best explained by a joint function of those concepts the individual considered important and those concepts that fitted his primary orientation. To illustrate:

For a pragmatically-oriented individual, behavior is best predicted by those concepts considered important and successful; for a moral-ethically oriented individual, behavior is best predicted by those concepts considered important and right; while for an affect-oriented individual, behavior is best predicted by those concepts considered important and pleasant (Sjogren, England & Meltzer, 1969, p. 9).

Values were seen not only in behavior but, according to Rescher (1967), manifested themselves on the side of talk or thought and on the side of overt action: "A value is thus a Janus-headed disposition-cluster--we expect it to orient itself in two directions: both that of discourse and that of overt action" (p. 13). Toffler (1970) looked at the manifestation of values from a different viewpoint when he stated: "For the way he distributes his time and emotional energies is a direct clue to his value system and his personality" (p. 337). Values, then, were considered to be operative in choices and decisions, in behavior and overt action, and in the way an individual distributes his time and emotional energies.

Education is seen as the function of a particular society, but in a wider sense it also reflects the ideals and values of the nation. The values of the nation are seen in the kind of schools established. The national values are usually articulated by spokesmen at public functions. In order to understand the values of the

American school it is necessary to examine the national values. Williams (1967) asserted that there were fifteen major value-belief clusterings that are salient in the American culture (p. 33). In discussing the background for American values, Fingarette (1955) suggested the following as the major values: Puritanism, challenge of the frontier, enlightenment, Hebrew-Christian religious values, immigration values, values associated with basic institutions, and finally, realism (pp. 155-73). Values were divided into three categories by Rescher (1969), namely, individual rights values, life-setting values, and personal-characteristic values (p. 122). Kaspar Naegele, quoted by Getzels (1958), spoke of the sacred values of American society (p. 148). These were values taught in school, the things that were worth fighting for. These values were a part of the American creed that constituted the basic beliefs as first enunciated by Jefferson. According to Naegele there were four sacred values: democracy, individualism, equality, and human perfectibility. (Getzels, 1958, pp. 148, 149).

Besides the sacred values there was also a core of existential, operating, and down-to-earth beliefs or values known as the American secular values. Getzels (1958) stated the difference between sacred and secular values as follows:

. . . , we pay homage most frequently to the sacred values on Sundays, and on state occasions, and in our day-to-day activity we behave in terms of the secular values. Traditionally (and I want to emphasize the time dimension, for evidence is accumulating that we are rapidly departing from these traditional beliefs), the following have been our major secular values (p. 150).

Getzels (1958) continued by citing the following as the major secular

values: the work-success ethic, future-time orientation, independence or autonomous self, and Puritan morality (pp. 150, 151).

The changes in societal values during the past few decades have given rise to various classifications of values. It seems that the sacred values have remained inviolate but cleavages are seen in the secular values (Getzels, 1957, pp. 97, 98). Toffler (1970) pointed out the confusion in values by stating:

America is tortured by uncertainty with respect to money, property, law and order, race, religion, God, family and self. Nor is the United States alone in suffering from a kind of value vertigo. All the techno-societies are caught up in the same massive upheaval. This collapse of the values of the past has hardly gone unnoticed (p. 268).

It seems that some of the classifications were due to philosophical distinctions while others were the result of empirical studies, usually in a form of comparison with established values. The major classifications will be discussed briefly.

Kluckhohn (1959) suggested that there were indications of universal values founded in part upon the fundamental biological similarities of all human beings. An example was the negative valuation that all cultures place upon killing (p. 481). When values were common to a family, ethnic group, or an organization they were referred to as institutionalized values (Worthen, 1968, p. 70). Broudy (1961), distinguished between higher values--religious, intellectual, aesthetic, moral, and some social values--and lower values also called bodily and material values (pp. 143, 144). The following distinction between instrumental and terminal values was given by Rokeach (1974):



An instrumental value is therefore defined as a single belief which always takes the following form: 'I believe that such-and-such a mode of conduct (e.g., honesty, courage) is personally and socially preferable in all situations with respect to all objects.' A terminal value takes a comparable form: 'I believe that such-and-such an end-state of existence (e.g., salvation, a world at peace) is personally and socially worth striving for.' Only those words or phrases that can be meaningfully inserted into the first sentence are instrumental values, and only those words or phrases that can be meaningfully inserted into the second sentence are terminal values (p. 563).

Intrinsic values referred to objects that were valued as an end or for themselves in their own rights (Baier, 1969, p. 50; Greenstein, 1972, pp. 304-10; Rescher, 1969, p. 53). Spindler (1955) distinguished between traditional and emergent values. Traditional values emphasized individual achievement, delayed gratifications, hard work, and puritan morality. Emergent values stressed group conformity, current satisfactions, sociability, and relativistic morality (pp. 145-56). Rogers (1974) defined three types of values: operative, conceived, and objective values. Operative values were those in which the individual showed preference for one object or objective rather than another. Conceived values were the preferences of the individual for a symbolized object, like honesty being the best policy. Objective values referred to what was objectively preferable, whether or not it is sensed or conceived of as desirable (Rogers, 1974, p. 321). The rapid changing of values led Getzels (1972) to call them transitional values. This embodied the concept that values were changing continually--what could be regarded as emergent values ten years before were now transitional (pp. 508-14).

The task of predicting value changes in the past was

relatively easy, for the changes were slow and almost imperceptible. During the past three hundred years it seemed that value changes had speeded up to the place where major value changes took place within a life time and even in shorter periods (Toffler, 1969, p. 2). According to Toffler (1970), there were two points to bear in mind when examining the rapid change of values. The first was the fact of accelerated value change and the temporary nature of value structures, and secondly the diversification of values due to the fragmentation of society (p. 269). In viewing the vast internal social cleavages and frictions that had led to severely straining the central system of beliefs and value criteria, Williams (1967) described the situation as a "depletion of cultural capital" (p. 22).

The rapid change in values of society placed a heavy responsibility upon the school and the educational leaders. The school faced a problem in deciding which values to propogate. The change in values over a comparatively short period was illustrated by a study undertaken by Getzels (1972) in the mid-fifties and repeated again in the early seventies. The study completed in the mid-fifties indicated that values had undergone a change, the values of students were more transitional and the parents were more traditional. A similar difference was noted between younger teachers and principals, and older teachers and principals. The repeat study in the early seventies, using the same instrument, indicated that values that were applicable in the fifties were not applicable or appropriate any longer in the seventies. Choices among the values of the fifties

were no longer choices at all because of their irrelevancy in the seventies (Getzels, 1972, p. 511).

The words of DeCarlo (1967) have special significance when the effects of rapidly changing values are recognized:

A society which will be subject to continuous institutional and social change must teach its children a profound commitment to deep and enduring human values. The values, which men know deep in their hearts as guidelines for right action, must be articulated, revitalized and made part of the educational process at all levels (p. 36).

Educational leaders were concerned about the rapid change in values in society and their effects upon the school. The educational leaders faced the difficult task of deciding which values rightly belonged as a function of the school. The view of Dickens (1974) as he examined the contemporary educational scene was to the point:

Great confusion about values exists in many American schools. On the one hand, schools claim to pass on certain traditionally revered values such as patriotism, democracy, respect for authority, and sportmanship. On the other hand, school personnel try to wash their hands of any involvement in shaping a student's personal values. The system balks if its students do not conform, or if they question too much. Parents are disturbed if they suspect that teachers hold values that are at odds with their own. Teachers are in conflict about whether or not they should expose their personal values to their students (p. 473).

The values of society and of the nation had an influence on the school, and Willower (1973) was of the opinion that "educational practice must be understood in terms of its milieu" (p. 6).

#### Board Chairman's Values

The effectiveness of the board chairman at board meetings seemed to constitute the major emphasis of the literature dealing

with boardmanship. The literature also indicated the vital role of the board chairman in the decision-making process of the board. There were no empirical studies found that related specifically to the values of the school board chairman, although there were some studies that investigated the general values of the school board members.

In a survey of college and university presidents and trustees by Davis and Bachelor (1974, pp. 24-26), it was found that both groups indicated that firm guidance by the board chairman was regarded as very important. Murdick and Myers (1971, p. 14) reporting on a study of Catholic schools, also stressed the role of the chairman of the board in the process of decision-making. Good leadership by the board chairman was emphasized by both Davis and Bachelor (1974, p. 53) and Nason (1975, p. 2) as one of the most important ingredients for effective boardmanship. Gross (1958, p. 113) suggested another dimension that contributed to effective boardmanship was the similarity of ideas between the school board members and the superintendent with regard to the policies and programs to be promoted.

Some factors that contributed to ineffective boards were: chairman's leadership style (Davis & Bachelor, 1974, p. 62); unwieldiness of large boards (Messersmith, 1964, p. 35) and various types of conflicts. The organizational position of boards of education had a potential for conflict as Getzels, Lipham, and Campbell (1968) asserted:

The board of education, by its very nature, must mediate between the affairs of the organization and the concerns of the public. Thus it is neither wholly inside nor wholly outside the organization. In so far as the board member's extraorganizational role affiliations are incompatible with the intraorganizational role expectations there is a potential for ambiguity and conflict (p. 184).

The position of the board, where it was neither entirely within nor wholly outside the organization, could create potential conflicts for board members. In discussing the interstitial position of the board and the consequent problems for board members, Abbott (1960b) stated:

The board is neither entirely within nor wholly outside the organization. To the extent that board members reflect the attitudes and values of the community in policy formulation they can be said to be functioning in an extra-organizational framework. To the extent that they reflect the attitudes and values of the organized profession they can be said to be operating in an intra-organizational setting. Moreover, the board serves as a mediating structure between the organization and its publics (p. 72).

Another type of conflict that contributed to the ineffectiveness of the board of education was role conflict. It seemed that many board members experienced a certain amount of role conflict and that the conflict was in part a function of the type of community they represented (Getzels, Lipham & Campbell, 1968, pp. 194, 195). Discussing the various roles of board members, Getzels, Lipham, and Campbell (1968) concluded:

Nor is it that assuming several roles with differing expectations necessarily leads to poor performance in the roles. Rather, it is that the multiple role incumbencies of school board members may induce role conflict, and that it is important to understand its nature and potential conflict (p. 184).

It seemed that the board chairman could face similar role conflicts in the present study under consideration.

The role of values was underscored by Abbott (1960a) when he stated that ". . . conflicts between a superintendent and a board member may result from conflicting conceptions of the value systems characterizing the school community" (p. 1). Cunningham (1959), however pointed out that:

Conflict between board members and administrators may not be as much a consequence of value differences as it is a failure to understand that value differences are to be expected. If board members and administrators expect to differ, this provides a framework either for compromise or integration (p. 4).

The study by Husebo (1965) on the role of values in board relationships stated that the similarity of value-orientations between the administrator and his board did not appear to be a prerequisite to a successful relationship (pp. 225, 256). The study by Abbott (1960b) indicated that board members who perceived their superintendent to have similar value-orientations to themselves, also expressed higher confidence in their superintendents than those who did not perceive their superintendents as having similar values (p. 76).

Another source of possible conflict between the values of board members and educational administrators according to Cunningham (1959) was that board members were guided in their decision making by personal and educational values, while the educational administrator was guided by his personal, educational, and professional values. The consideration of each policy question led to internal value conflicts which necessitated an ordering of their own values (p. 3).

The values of board members and educational administrators were tested in the decision-making process. Abbott (1960b) expressed it this way:

In addition to recognizing the dangers associated with misperception, both superintendents and board members need to understand that many of their decisions are based upon the conceptions which they hold of the desirable or good. In other words, they need to be aware of the important role that values play in the decision-making process (p. 80).

The decisions of the board were influenced not by a general set of values, but rather by the interplay of unique sets of values held by individual board members. The unique role of values in the decision-making process was pointed out by Ostrander and Dethy (1973) in the following quotation:

Since values are functions of the individual, each member of the board brings his own unique set of values to bear upon the decision process. Each is concerned with his own values and with the values held by his fellow board members. The board decisions will be influenced by the interplay of the several sets of unique value systems of the individual board members and of the administrators who are advising them (p. 136).

Conflicts in the board might have been due to the interstitial position of the board, or it might have been due to the role of the members, but it did seem that the most likely conflict was in values held by the various members and the influence of this on the decision-making process.

A number of studies indicated a difference in values according to age (Abbott, 1960b, p. 77; Prince, 1957, p. 2). Older board members had different values than younger board members, older teachers had different values than younger teachers, and older principals had different values than younger principals. The

question of age differences in connection with values was an inescapable issue. Getzels, Lipham, and Campbell (1968) asserted:

The important point here is not so much the precise nature of the obtained differences, which in any event are not likely to be of universal application, but the fact that there are systematic differences in values by age (p. 170).

The study by Larson (1966) on the values of school board members and their role reported a positive relationship between congruency of belief system and satisfaction with their role as board members (p. 92). Larson (1966) used the Study of Values scale and reported that younger board members tended to score higher on the aesthetic value than the older members. The aesthetic value scores tended to increase as the educational attainment of school board members increased (p. 94). Larson (1966) further reported that the religious value scores tended to decrease as school board members attained a higher level of education (p. 94). The study by Gerber (1972) on the values of board members and problem solving indicated that the interpersonal behavior of the majority of board members was not conducive to problem solving (p. 95). According to Gerber (1972), the pyramidal values, that is, those values that put exclusive effort upon getting the job done, suppressing emotions, highlighting rationality, and motivating participants through direction, control, and appropriate rewards and penalties, tend to inhibit problem solving in the school context (pp. 83-87).

The board chairman was regarded as the principal trustee (Nason, 1975, pp. 33, 34) or the key person (Murdick & Meyers, 1971, p. 63) in effective school board relations. In the Seventh-day



Adventist system of schooling, the board chairman of residential academies held a key position in serving also as the conference president (Atlantic Union Conference Educational Code, 1963, p. 43). Jaqua (1967) seemed to emphasize the role of the school board chairman in Seventh-day Adventist schools by stating that "the principal's security in his position seems to rely too heavily on the chairman of the board" (p. 301). In Jaqua's study (1967, p. 190) the principals ranked in order of preference the sources from which they derived their authority and in which they felt secure. At the top of the list was the chairman of the board. Jaqua (1967) continued:

The chairman of the board in a boarding academy was usually the president of the conference that was being served by the school. He was the top authority in the conference and usually worked very closely with the principal of the boarding academy. Day academies could choose their board chairmen from the members of the churches that were served by the school (p. 190).

The key position of the board chairman in school-board relationships was emphasized in the literature review of school boards. A summary of the literature indicated that there were various factors, namely, interstitial position of the board, role of members and values, that give rise to conflict within the school board. It seemed that values played a dominant role in effective board relationships.

#### Educational Administrator's Values

The extensive literature on the educational administrator emphasized the role of values in the educational setting. The values of the educational administrator entered into every administrative

decision that was made in the school whether it related to the timetable, the educational programs, the finances, or the deployment of the faculty in the educational enterprise. Conflicts that arose among leaders in the school could often be traced back to an incongruency of value orientations. There was no area in educational administration that was not influenced by values. The study by Lupini (1965) revealed ". . . that with few exceptions, values were consistently and significantly related to the organizational climate of the school" (p. 8).

The educational administrator must have a set of values that are consistent with the aims of education if decisions for quality education are to be taken (Beveridge, 1972, p. 17). Beveridge (1972) believed that values provided for the continuance of worthwhile educational practices as well as furnishing a base for the critical examination of current practices (p. 17). This implied that as values changed so would their corresponding educational practices change (Mesthene, 1970, p. 45). In discussing a competency pattern in educational administration, the role of values was indispensable according to Newsome and Gentry (1963):

. . . some of the authorities in school administration believe that attention to theory, logical consistency, explicit and consistent value systems, and non authoritarianism are fundamentals of a competency pattern in educational administration. If this competency pattern be accepted, then many of the findings and conclusions from studies of administrators do not compare favorably with the pattern (p. 412).

Educational administrators had a unique value and value system profile which distinguished them from any other occupational-

career group (Sikula & Sikula, 1972, p. 7). Based on a study of 210 school administrators, the group exhibited an ethical-moralistic personal value orientation as a primary orientation and a pragmatic value orientation as a secondary orientation (Sjogren, England & Meltzer, 1969, p. iv). The study of Beveridge (1972) on the values of Utah's school administrators indicated that ". . . school administrators have, in general, adopted the values of the business world. Utah's school administrators rate the economic and political values high as have administrators in other parts of the United States" (p. 59). A study of Ohio school principals by Cyphert (1961) discovered a stable and consistent hierarchy of values, extending from a high religious orientation to a low aesthetic orientation (p. 46). In another study by Newsome and Gentry (1963) on school superintendents it was revealed that school superintendents had high social and economic orientations (p. 416).

In discussing educational administration requiring a distinctive value framework, Graff and Street (1957), distinguished between the general concept of administration and educational administration by stating that "educational administration appears to have greater responsibility for the cherished human values than do many other kinds of administration" (pp. 120, 121). Social values were seen by Beveridge (1972) as essential for the educational administrator, for at the core of the concept was love. Only those who held others in high esteem could commit themselves to this value (p. 19). In suggesting the kinds of values administrators should

have, Sachs (1966) recommended that the theoretical, religious, and aesthetic values were assets to the educational administrator (p. 108). According to Rich (1968) the aesthetic value should be emphasized in schools and he also saw its importance for the educational administrator by stating that "through aesthetic sensitivity one is able to perceive moral choices in a wider and deeper dimension" (p. 158). There was no unanimity among the authorities about which values the educational administrators should have but Willower (1961) suggested:

The educational administrator must be not only a student of human behavior but he must also be something of a philosopher. Concern with the questions of educational philosophy and with the normative approach to values is thus an integral part of educational administration as an intellectual discipline (p. 159).

The educational administrator could but act in terms of the values he held, both consciously and unconsciously. One way the educational administrator could seek to understand his value system, according to Sargent and Belisle (1957), was by attempting

. . . to understand the behavior of other administrators trying to copy with actual administrative situations, with a minimum of intrusion of his own preconceived or unconscious values, an administrator may learn more about his own value system (p. 5).

The role that professional values played in influencing the behavior of educational administrators was supported by Cunningham (1959), p. 3).

The literature on decision-making was replete with statements that emphasized the role of the educational administrator in the decision-making process of the school or board (Lipham & Hoeh,

1974, pp. 149, 150). Davis and Bachelor (1974), in their study of colleges and universities, stressed the major role of the president in the decision-making process as seen by both the trustees and the president himself (p. 27).

Values undergirded every decision, and Blackmon (1968b) emphasized that "no administrative decision is value free" (p. 1). Accepting this assumption, Lipham and Hoeh (1974) stressed the importance of the administrator's value system by pointing out that "since individual values condition the making of all educational decisions, the principal must become aware of his own value system and its interface with the value systems of others with whom he works" (p. 68).

Recognizing the definitive role of values in educational administration, it seemed appropriate that values should receive attention in the training of educational administrators. In the past, training programs had stressed state and district organization, school law or financing. In contrast Sachs (1968) suggested that the focal points should be perception, values, and behavior (p. 35). In a similar vein on the training of educational administrators, Abbott (1960a) suggested:

It would seem desirable for the future administrators to acquire also an understanding of the nature of values and their influence upon interpersonal relationships. Because of the importance of accurate perception of values and attitudes, training programs should provide the opportunity for students to develop skills in perception and communication (p. 4).

A number of studies (Abbott, 1960b; Husebo, 1965; Yanker, 1974) reported the effect of the similarity of congruency of values

of principals and superintendents with other groups in the school system. The similarity of values held by administrators and school board members was supported among others by the study of Yanker (1974). Yanker (1974) found in her study that there was a similarity of values between parents and the community, and between the administrators and school board members (p. 235). The greatest disparity of values was between the parents and the high school students (p. 236). Lipham and Hoeh (1974) stated the role of values in influencing behavior:

The value orientations held by individuals--principals, teachers and students, and parents--are powerful determinants of behavior. Again, research has shown that the values held by individuals and the degree of similarity in values condition the role and personality relationships within the school. Thus the principal must be aware of both his own and other's value orientations (pp. 6, 7).

The milieu of teacher training institutions seemed to have a strong influence on the viewpoints of teachers (McPhee, 1959, p. 4). Rasmussen (1962) found a high degree of actual agreement between principals and teachers on values with regard to teaching, but the teachers seemed to perceive their principals as holding much less liberal views than their own and this tended to become a threat to creative teaching.

Managers and educational administrators had similar values according to the observations of Sikula and Sikula (1972, p. 5). The study by Sikula and Sikula (1972, p. 7) on six managerial groups, including educational administrators, seemed to indicate that educational administrators as a group had a unique value and value system profile which distinguished them from other occupational

groups. Of the six managerial groups--industrial managers, financial managers, retail managers, governmental executives, educational administrators, industrial personnel managers--the educational administrators reported the highest scores of all groups on the following values: a sense of accomplishment, a world at peace, a world of beauty, mature love, social recognition, being courageous, and intellectual. They also scored the lowest of all the groups on the following values: salvation, being ambitious, clean, honest, obedient, and polite. In evaluating the results, it was found that educational administrators valued the intellectual aspect very highly and showed an almost total disregard for the end-state of salvation. Educational administrators valued social recognition, yet deemphasized the decorum values of being clean, polite, and obedient. On the other hand, Sjogren, England, and Meltzer (1969) stated that "the administrators as a group exhibited an ethical-moralistic personal value orientation as a primary orientation, and a pragmatic orientation secondarily" (p. iv).

Prince (1957), portraying the role and problems of the school administrator, summarized the problem in this way: "The school administrator faces the difficult task of attempting to work with individuals who hold differing values and to coordinate them into an effective and efficient organization for dealing with the problems of the schools" (p. 1).

In interpersonal relationships within educational administration there were expectations that various groups held for the administrators. In the words of Campbell (1957), "each of the groups

with which an administrator works holds certain expectations for that administrator. These expectations determine, at least in part, what the administrator can and will do" (p. 229). After discussing the role of expectation in the Getzels-Guba model and the hypotheses that could be derived from it, Ostrander and Dethy (1973) stated:

A basic hypothesis developed by Getzels from the model is that when the participants in an interaction in administration hold perceptions and expectations which overlap, there is a participant satisfaction with the work accomplished. This satisfaction takes place regardless of the actual behavior of accomplishment (p. 69).

It seemed that expectations would play a role in board chairman and educational administrator relationships. Getzels, Lipham, and Campbell (1968) indicated that the greater the similarity in values and attitudes among individuals the more effective the communication was among them (p. 281).

It was in the area of interpersonal relations that conflicts developed and this formed the major portion of the problems with which the educational administrators dealt. According to Sachs (1968), "pressing problems in educational administration fall for the most part in the area of social perceptions and attendant values and behaviors that arise from them" (p. 26). The misperception of values as an imminent source of misunderstanding was something that administrators would have to be cognizant of if healthy interpersonal relations were to be fostered (Abbott, 1960b, p. 80). Abbott (1960b) also stated:

Since persons tend to resort to projection when estimating values and attitudes of which they have no definite knowledge, this potential source of misunderstanding is accentuated when the interacting individuals hold differing or conflicting values (p. 80).



The conflict of values affects all the institutions of society, and particularly the schools of a community. Thompson (1970) states that "the problems of values conflict focuses in the education of children and youth, and in the school the responsibility for attempting to deal with that conflict rests chiefly with the administrator" (p. 314). Because schools ignored the role of values in education, Brameld (1965) was led to state that "values are education's most neglected problem" (p. 89). According to Getzels (1957), the problem of values is the central issue which faces schools (p. 92). The tension caused by value conflict in the school is not solely felt by the educator but also has repercussions throughout the whole adult population.

The educator's conservative inclination to preserve traditional and enduring values exists in uneasy tension with the requirement to prepare children for a world in which change, difference, and new experience will be the primary characteristics. This tension is not only the province of the educator and scholar but is felt throughout the adult population (DeCarlo, 1967, p. 26).

At the center of the conflict of values in the school stands the educational administrator, who must mediate the forces of conflict so that the school can reach its objectives (Thompson, 1970, p. 310).

The educational leader must not only recognize that the conflict in the school concerns values but must also be cognizant of personal values and the role these play in directing the educational program. As Leonard and Gies (1971) stated: "Values play an important part in the processes involved in the identification, establishment, and fulfillment of organizational goals" (p. 16). This role

was also emphasized by Ostrander and Dethy (1973) who asserted that "the value system of the educational leader will serve as the pole-star for the determination of his goals and objectives" (p. 83). Recognizing that values play a dominant role in education, the investigation of the values of educational leaders could help to clarify administrative relationships in the educational setting. As Smith (1969) has stated: "Since values play so dominant a role in education, or ought to, it is only natural to expect value inquiry to play an important role in educational administration" (p. 408). Sachs (1968) stressed the need to look at the values held not only at the conscious level but beneath the level of consciousness:

Thus, it appears that men who are to lead others and yet do not understand their own aggressions may be, in effect, less able than they believe to relate to other men in a significant way. It is necessary, therefore, not to dismiss negatively valenced emotions nor any part of the personality but to cut deeper into perception if we are to understand what leadership means and administrative behavior suggests.

This fact brings us face-to-face with the need to study the values held by the administrator not only at conscious level but beneath the level of consciousness (p. 27).

The rapid change of values in society, its impact upon the school, its influence upon the educational leader emphasize the role of values in the educational milieu. According to Rescher (1969), "a value represents a slogan for the rationalization of action" (p. 9). Accepting the validity of this statement, educators have felt justified in studying values to understand leadership behavior.

In a study of the conflict patterns of superintendents, Hencley (1960) found that value differences was one of the major obstacles in the path of superintendents in attempting to unify and

harmonize reference-group expectations. The way to improve administrative relationships, according to Abbott (1960b), was through a clarification of the values that underlie the various approaches to the solution of educational problems (p. 81). Abbott (1960b) elaborated on this by stating:

With such a clarification two major sources of misunderstanding can be at least partly removed: (1) by making explicit the value bases for their own recommendations, superintendents can eliminate some of the misunderstanding that would occur if board members were to interpret those recommendations on the basis of differing or conflicting values; (2) by making a conscious effort to understand board members' value orientations, superintendents will be less prone to misinterpret the motives of the board members as they deliberate educational policy (pp. 80, 81).

Besides the conflicts that arose in educational administration due to value differences, there were also role and personality conflicts.

Role conflict occurred, according to Ostrander and Dethy (1973),

. . . when a principal or a superintendent of schools recognizes his responsibility to follow the policy of the board of education at the same time that he sees an obligation to be loyal to his philosophy of education which may be directly in opposition to the stated policy of the board (p. 70).

Personality conflict, according to Ostrander and Dethy (1973), came about as a result of opposing need-dispositions within the role incumbent. If personal equilibrium could not be maintained the individual will also be at odds with the institution (p. 70).

According to Thistlethwaite (1973) much of the previous literature indicated that exposure to major fields of study in higher education was relatively ineffectual in changing student attitudes. There seemed to be evidence that there was a correlation between the values of students and the major fields of study they pursued. What

was not known was whether the students were attracted by those with similar values into specific fields or whether being in those fields changed them (Thistlewaite, 1973). There were numerous studies using the Study of Values scale that indicated a unique value configuration for major fields of study (Allport, Vernon & Lindzey, 1970). According to Andrews (1958) there was a significant difference between the values and personality needs of teachers in the various subject matter fields.

The study of Rose (1968) relating to elementary school principals and teachers seemed to indicate that school size and location attracted leaders with distinct values. The rural and small town school seemed to attract principals with traditional values while the urban and large schools seemed to attract principals with emergent values. Rose (1968) concluded by stating: "In educational administration we probably do not yet have a value construct that relates in any highly specific way to the technically complex operation of administering a school or school system" (p. 11).

The literature seemed to indicate the desirability of value congruency among the leaders of an enterprise and especially in educational administration. A study by Turk (1963) on the role relations between student nurses and student physicians indicated that the greatest team cohesion occurred when the superordinate and subordinate role incumbents held different value orientations. "The cohesion of a structurally differentiated system rests on some tolerated variability in the values to which its various parts are

oriented" (Turk, 1963, p. 37). The results of the study by Turk (1963) were not in agreement with the studies cited previously in this literature review. It seemed that in certain specified limited tasks a degree of value difference could enhance team cohesion, as noted in the Turk (1963) study.

In discussing the expectations of educators and non-educators for schools, Getzels, Lipham, and Campbell (1968) noted this as one of the sources of conflict in the school setting. They pointed out that differences in educational expectations vary according to occupational, educational, and social class groups as well as by geographic region, age, religion, and racial composition (pp. 180, 181). Administrative research has shown that there are many factors that affect leadership behavior and according to Abbott (1960a), many conditions, both interpersonal and environmental, affect the way in which individuals can and will act (p. 3).

In the present study, the Seventh-day Adventist residential academy principal was regarded as having functions that were similar to those of a superintendent of schools (Jacqua, 1967, p. 185), and thus the studies that relate to superintendents of education and boards of education could apply to Seventh-day Adventist academy principals.

The review of literature indicated the important role that values play in the total educational setting. The fact that the educational administrator operated primarily in an interpersonal and social setting necessitated that he have an adequate under-

standing of the individuals and groups with whom he works. In the words of Lupini (1965): "Knowledge of values is crucial to the administrator since his effectiveness as a leader is largely dependent on his ability in human affairs" (p. 5).

### Summary

The review of literature was divided into three sections: the first dealt with the general literature on values, the second dealt with the values of board chairmen, and the third dealt with the values of educational administrators.

The first section emphasized the complex nature of values and the difficulties that researchers encountered in defining them. Due to the complexity of values, little or no empirical research was attempted in this area until recently when a number of studies were undertaken. The literature indicated that values were manifested by overt human behavior, and by the decisions and choices that individuals made. Educational leaders were admonished to give greater attention to the vital role of values in the decision-making process if the goals and the objectives of educational institutions were to be reached. The rapid changes in societal values has not only affected the values of educational leaders but has faced them with the problem of deciding which values to promote in the school.

In the second section, studies that dealt directly with the values of board chairmen were not discovered. The main emphasis was on the role of the board chairman in board meetings and on the effectiveness of the chairmen in promoting sound educational

policies. The literature and the studies cited referred to the values of board members and not specifically to the values of board chairmen. The works consulted indicated that conflict on the board was often due to the different values held by the various board members. In the present study the board chairmen held a key position in the Seventh-day Adventist educational system.

The third section of the literature review dealt with the values of educational administrators. According to a number of studies, educational administrators had a unique value profile, different from any other occupational group. There were studies that indicated that educational administrators had adopted the values of the business world, placing a high priority on the economic and political values. Due to the decisive role that values played in educational administration, various educational leaders suggested that the studying of values should have a place in the training of educational administrators. The conflicts that occurred in the administration of schools could largely be traced to underlying value conflicts of the leaders. The literature suggested that conflicts could be minimized if educational leaders clarified the values that underlie every decision. There was evidence in the literature that major fields of study had an influence on the value orientations of the individuals studying in a particular field. The literature stressed the congruency of values as a prerequisite for effective administrative relationships.

## CHAPTER III

### METHODS AND PROCEDURES

#### Research Design

The purpose of this study was to compare the values of board chairmen and educational administrators. This chapter presents a description of the research design, selection of subjects, instrumentation, data collection, limitations, and the treatment of the data.

The study was based on the total population under study, that is, all the board chairmen and chief educational administrators of all church-operated Seventh-day Adventist residential academies, colleges, and universities within the United States of America and Canada.

The dependent variable in the study, the scores on each one of the six values, was dependent on a number of independent variables. These were: age, non-administrative experience, number of years of administrative experience, the highest degree obtained, the major field of study, the enrollment of the institution, and the number of years of schooling in Seventh-day Adventist institutions.

To obtain the information required to test the hypotheses it was necessary to approach the design of the study in the following manner:



1. Select the two population groups of board chairmen and chief educational administrators
2. Develop procedures for collecting the data. This included the selection of an instrument for measuring values and the development of an information sheet
3. Determine the treatment to be given the data, including the scoring of the instrument and the selection of appropriate statistical procedures
4. Analyze the data to test the hypotheses and to describe the values of board chairmen and chief educational administrators

#### Null Hypotheses

The following hypotheses are presented in the null form and were tested statistically. The first six (1-6) null hypotheses relate to the major purpose of the study while the last four (7-10) null hypotheses relate to the corollary purposes of the study.

The null hypotheses state:

1. There is no significant difference between the scores of board chairmen and chief educational administrators on the aesthetic value as measured by the Study of Values scale
2. There is no significant difference between the scores of board chairmen and chief educational administrators on the economic value as measured by the Study of Values scale
3. There is no significant difference between the scores of board chairmen and chief educational administrators on the political value as measured by the Study of Values scale

4. There is no significant difference between the scores of board chairmen and chief educational administrators on the religious value as measured by the Study of Values scale

5. There is no significant difference between the scores of board chairmen and chief educational administrators on the social value as measured by the Study of Values scale

6. There is no significant difference between the scores of board chairmen and chief educational administrators on the theoretical value as measured by the Study of Values scale

7. There is no significant difference between the scores of board chairmen and chief educational administrators based on the independent variables of age, non-administrative experience, years of administrative experience, highest degree held, educational major, and the number of years of schooling in Seventh-day Adventist institutions on the six values as measured by the Study of Values scale

8. There is no significant difference between the scores of different groups of chief educational administrators based on the independent variable of enrollment in academy, college, or university on the six values as measured by the Study of Values scale

9. There is no significant difference between the scores of residential academy board chairmen and residential academy principals on the six values as measured by the Study of Values scale

10. There is no significant difference between the scores of college and university board chairmen, and college and university presidents on the six values as measured by the Study of Values scale

### Selection of Subjects

There were two groups of subjects selected: first, the principals of Seventh-day Adventist church-operated residential academies and presidents of Seventh-day Adventist church-operated colleges and universities in the United States of America and Canada; and second, the board chairmen of Seventh-day Adventist church-operated residential academies, colleges, and universities in the United States of America and Canada.

The populations of board chairmen and chief educational administrators selected for this study are briefly described. The board chairmen were regarded as a homogeneous group because of certain common characteristics. As a group, the board chairmen held the highest executive positions of the Seventh-day Adventist church, being vice-presidents of the General Conference, union conference, and local conference presidents. The chairmen resided in the ten union conferences which geographically cover the United States of America and Canada. The board chairmen generally had theological studies as their academic background and ministerial training as their professional background. Their training was acquired in a Seventh-day Adventist college and/or seminary. As a group, they were all ministers and subscribed to the beliefs and doctrines of the Seventh-day Adventist church.

The population of chief educational administrators had common characteristics which made them a homogeneous group. All of the educational administrators were members of the Seventh-day

Adventist church and subscribed to the beliefs and doctrines of the church. They held the highest administrative positions in residential academies, colleges, and universities owned and operated by the Seventh-day Adventist church. The majority of the chief educational administrators had received their undergraduate schooling in Seventh-day Adventist colleges and universities. A large number had taken their advanced graduate studies in Seventh-day Adventist colleges and universities. Most of the chief educational administrators had teaching experience in Seventh-day Adventist educational institutions before becoming principals or presidents.

The list of residential academies, colleges, and universities was obtained from the Seventh-day Adventist Yearbook, 1975 (Gibson, 1975). There were forty-seven residential academies, ten colleges, and two universities. The total population consisted of fifty-two board chairmen and fifty-nine chief educational administrators. There were fewer board chairmen than chief educational administrators because some board chairmen were chairmen of more than one residential academy.

### Instrumentation

The instrument used for this study was the Allport, Vernon, and Lindzey, A Study of Values: A Scale for Measuring the Dominant Interest in Personality, first published in 1931. As a result of continued study by the authors, two revisions were undertaken—one in 1951 and the other in 1960. In 1968, a machine scorable booklet was developed for the third edition and norms were developed for American high

school students. The third edition published in 1960 was used in this study.

The Study of Values aimed to measure the relative prominence of six basic interests or motives in personality, namely: the aesthetic, economic, political, religious, social, and theoretical values. This classification was based on Eduard Spranger's Types of Men (1928), a work that defended the view that the personalities of men were best known through a study of their values or evaluative attitudes. Spranger did not imply that a given man belonged exclusively to one of these types.

The instrument was constructed in such a way that the average score is forty for any single value. It does not, however, measure the absolute strength of each of the six values, only their relative strength. A high score on one value can be obtained only by reducing correspondingly the scores on one or more of the other values.

The test was designed to be used by college students or adults with some college (or equivalent) education. It is self-administered and consists of 120 questions based upon a variety of familiar situations. Each value is represented by twenty questions and the subject records his preferences numerically next to each alternative according to the instructions provided with the instrument. After summing the totals from each page and applying some corrections, the six total scores are designed to be plotted on a profile. The test normally takes twenty minutes to complete.

The six values used in this text, according to the manual, were characterized as follows:

1. Aesthetic--The aesthetic man saw his highest value in form and harmony. Each experience was judged from the standpoint of grace, symmetry, or fitness. Aesthetic people often liked the beautiful insignia of pomp and power but opposed political activity when it made for the repression of individuality. These people tended toward individualism and self-sufficiency (Allport, Vernon & Lindzey, 1970, pp. 4, 5)

2. Economic--The economic man was interested in what was useful. This type was thoroughly practical. He wanted education to be practical and this attitude brought him into conflict with other values (Allport, Vernon & Lindzey, 1970, p. 4)

3. Political--The political man was interested primarily in power. Whatever his vocation he betrayed himself as a power-hungry person, who sought for personal power, influence and renown (Allport, Vernon & Lindzey, 1970, p. 5)

4. Religious--The highest value of the religious man could be called unity. Spranger defined the religious man as one "whose mental structure is permanently directed to the creation of the highest and absolutely satisfying value experience" (Allport, Vernon & Lindzey, 1970, p. 5)

5. Social--The highest value for this type was love for people. In the Study of Values it was the altruistic or philanthropic aspect of life that was measured (Allport, Vernon & Lindzey, 1970, p. 5)

6. Theoretical--The dominant interest of the theoretical man was the discovery of truth. He took a cognitive attitude towards everything and he sought for identities and differences of all that he observed. His chief aim in life was to order and systematize his knowledge (Allport, Vernon & Lindzey, 1970, p. 4)

The authors used two methods to test the reliability of the Study of Values. All of the reliability studies reported were for the 1951 edition but since there were no changes in the test items for the 1960 edition, it appeared that the tests were equally applicable to the latest edition. On the first test for internal consistency, the split-half reliability coefficient was used, the resulting mean reliability coefficient using a z transformation was .90. On the second test for item analysis, it was shown that each item was positively associated with the value it was supposed to test. All the items were found to hang together consistently. A final item analysis showed a positive correlation for each item with the total score for its value, significant at the .01 level of confidence (Allport, Vernon & Lindzey, 1970, pp. 9, 10). There was a positive association between social-religious values, and between economic-political, possibly also between theoretical-aesthetic values. The degree of correlation, however, was not high enough to indicate that a smaller number of more basic types could be developed (Allport, Vernon & Lindzey, 1970, p. 10).

Buros's Seventh Mental Measurements Yearbook reported the following summary by Robert Hogan of Johns Hopkins University:

In summary, in spite of several problematic features (i.e., ipsative scoring and the associated difficulties of interpreting correlations of subscales across persons, a restricted range of usage, the poorly defined nature of "values"), the Study of Values is a surprisingly viable test. When used with cooperative subjects, it provides dependable and pertinent information concerning individual cases. In addition, the steadily mounting bibliography of the Study of Values suggests the test will also have continuing usefulness as a research device (Buros, 1972, p. 147).

The Study of Values scale has been extensively used with various vocational groups in the fields of engineering, business, medicine, education, personnel and guidance, art and design, and religion (Allport, Vernon & Lindzey, 1970, p. 14, 15). As far as can be ascertained the Study of Values scale has not been used to measure the values of Seventh-day Adventist occupational groups. It has generally been used to measure the values of clergymen and theological students (Allport, Vernon & Lindzey, 1970, p. 14). The scale was also used by Beveridge (1972) to measure the values of Utah's public school administrators, the majority of whom are members of the Church of Jesus Christ of Latter-day Saints (Mormon). The Study of Values scale seems to be a viable instrument for measuring the values of both religious and secular groups.

#### Collection of Data

The names and addresses of the board chairmen and chief educational administrators were obtained from the Seventh-day Adventist Yearbook, 1975 (Gibson, 1975). To ensure the accuracy of the names and mailing addresses of the board chairmen and the chief educational administrators, the lists were submitted for updating



in December 1975 to the Statistical Department of the General Conference of Seventh-day Adventists.

On January 15, 1976, the Study of Values scale, two covering letters, and an information sheet were mailed directly to fifty-two board chairmen and fifty-nine chief educational administrators. A self-addressed envelope with return postage was provided for the return of the scale and the information sheet. One of the covering letters was written by the researcher's advisor and explained the purpose of the study while the other, from the researcher, explained the information sheet and the Study of Values scale (Appendix A). The first and last sheet of the Study of Values booklet was removed, to ensure that the identity of the scale would not affect the respondents. A typed copy of the instructions for the scale replaced the first page of the booklet. Information sheets to be completed by the board chairman and the chief educational administrator solicited personal information about age, years of non-administrative experience, years of administrative experience, highest academic degree held, major field of study, and the number of years of schooling in Seventh-day Adventist institutions (Appendix B). The chief educational administrator's information sheet called for additional information on size of the enrollment of the institutions served by the administrator.

Two reminder letters were mailed to board chairmen and chief educational administrators who had not responded. The first was sent on February 10 and the second on March 8. The second reminder

contained a self-addressed postcard, postage prepaid, asking for a response—one of the options being a request for another set of materials if desired (Appendix C). The final cut-off date for the return of the materials was March 26, 1976. A total of ninety six individuals, or 86.4 percent, responded. Of the forty-one, or 78.8 percent, of the board chairmen who responded, five refused to complete the materials for various reasons. Two returned incomplete instruments and one requested more information but failed to return the materials even after these had been sent. A total of thirty-three, or 63.4 percent, of the board chairmen returned materials and these were used in the study. Of the fifty-five, or 93.2 percent, of the educational administrators who responded, two refused to comply with the request, four returned incomplete materials that were unusable and another four requested further information but did not return the materials that were mailed to them. A total of forty-five, or 76.2 percent, of the chief educational administrators returned materials which were used in the study. A combined final total of seventy-eight, or 70.2 percent, of the board chairmen and chief educational administrators responded with usable sets of materials.

An examination of the usable responses of both board chairmen and chief educational administrators indicated that there was a spread of responses from all ten of the union conferences of Seventh-day Adventists that encompassed the area of the study. The seventy-eight respondents were regarded as a representative sample of the total population.

Limitations

This study was subject to one of the common limitations of research—the size of the population of the study. In this investigation the total possible population was fifty-two board chairmen and fifty-nine chief educational administrators, but only thirty-three board chairmen and forty-five chief educational administrators completed the scale for this study. Analysis of the data further reduced the number to two in the case of one of the comparisons. The small numbers in the group must be taken into account when making generalizations from the data.

The respondents in the study did not represent a random sample but only the available sample. The sample could be regarded as representative of the total geographic area encompassed by the study, for there were proportionate responses from all of the ten union conferences of Seventh-day Adventists covered by the study. Not being a random sample, caution must be used in making inferences to the general population.

Further limitations were the unequal groups used in the statistical procedures. There were thirty-three board chairmen who were further divided into nine college board chairmen and twenty-four residential academy board chairmen. There were forty-five chief educational administrators and they were divided into nine college and university presidents and thirty-six residential academy principals. Almost all of the comparisons were between unequal groups.

### Treatment of Data

The returned Study of Values booklets were handscored according to the instructions of the Study of Values manual (Allport, Vernon & Lindzey, 1970). The scores on each page of the booklet were summed and the totals transferred to a score sheet. The final total scores for the aesthetic, economic, political, religious, social, and theoretical values were obtained by summing the transferred totals on the score sheet and by applying correction figures to the summed scores.

The six final scores from the Study of Values score sheet, together with the personal data from the information sheet of each board chairman and chief educational administrator, were typed into a data file in the Andrews University computer in preparation for the statistical treatment of the data. Two statistical procedures were used for analyzing the data. All the hypotheses were tested by using the Cooley-Lohnes computer program of one-way multivariate analysis of variance (Cooley & Lohnes, 1971, p. 238). This program makes provision for unequal numbers in each group. The assumption of equal numbers in each group is common to this type of statistical procedure, was broken, and that is why it was deemed essential to use a program that made provision for unequal groups. Besides the overall multivariate analysis, the program makes provision for the comparison of the six variables univariately. The means and the standard deviation was provided for each variable for each group in

the comparison. The .05 level of confidence was established as the minimum criterion level for the rejection of a hypothesis.

A second statistical procedure, a discriminant analysis for several groups was also used. The discriminant analysis program from Overall and Klett was adapted and modified by Dr. W. Fitcher and Andrews University Computing Center (Overall & Klett, 1972, pp. 300-306). This procedure was used for all the comparisons that were significant for the multivariate or univariate analysis.

The comparisons using the one-way multivariate analysis of variance were the following:

1. The six value scores of the board chairmen were compared with the six value scores of chief educational administrators

2. The six value scores of board chairmen and chief educational administrators were compared on two categories of age, that is, fifty years and less and over fifty years

3. The six value scores of board chairmen and chief educational administrators were compared on two categories of non-administrative experience. First, a combination of teaching and pastoral experience for board chairmen was compared to teaching and pastoral experience of chief educational administrators, second, pastoral experience of board chairmen was compared to teaching experience of chief educational administrators

4. The six value scores of board chairmen and chief educational administrators were compared on three categories of years of administrative experience, namely, ten years and less, eleven to twenty years of experience, and twenty-one years and over

5. The six value scores of board chairmen and chief educational administrators were compared on four categories of highest academic degree held, namely, bachelor's degree, master's degree, bachelor's and master's degree, and doctor's degree

6. The six value scores of board chairmen and chief educational administrators were compared on three categories regarding the major field of study, that is, theology compared to education, theology compared to social sciences, and theology studies for board chairmen compared to theology studies of chief educational administrators

7. The six value scores of board chairmen and chief educational administrators were compared on two categories of schooling in Seventh-day Adventist institutions, that is, first, the two groups with sixteen or more years of schooling in Seventh-day Adventist institutions were compared and, second, the two groups with less than sixteen years of schooling in Seventh-day Adventist institutions were compared

8. The six value scores of residential academy principals were compared on three categories of enrollment in the academies: principals of schools with 180 students or less, principals of schools with 181-280 students, and principals of schools with over 280 students

9. The six value scores of college and university presidents were compared on three categories of enrollment in the universities and colleges: presidents of institutions with 900 or less

students, presidents of institutions with 901-1,500 students, and presidents of institutions with over 1,500 students

10. The six value scores of residential academy board chairmen were compared with the six value scores of the residential academy principals

11. The six value scores of college and university board chairmen were compared with the six value scores of college and university presidents

A discriminant analysis was run for each of the comparisons that was significant for the multivariate analysis. The results of the analyses of the data are reported in chapter IV. The values of board chairmen and chief educational administrators were described by ranking the means of the values for each group.

#### Summary

This chapter has been concerned with the design and procedures for executing the study. Included were the hypotheses stated in the null form, the selection of subjects, the instrumentation, collection of data, the limitations, and the statistical procedures used in the study. The remaining chapters present the analysis and interpretation of the data.

## CHAPTER IV

### PRESENTATION AND ANALYSIS OF DATA

This chapter is devoted to the analysis and presentation of data and is divided into two sections. The first section deals with the presentation, comparison, and analysis of the six values of board chairmen and chief educational administrators and relates to the first six null hypotheses. The second section deals with the corollary purposes of the study, and also contains an analysis of the six values of board chairmen and chief educational administrators based on the independent variables of the study: age, non-administrative experience, years of administrative experience, enrollment of the educational institutions, highest degree obtained, major field of study, and number of years of schooling in Seventh-day Adventist educational institutions.

The independent variables relate to the seventh and eighth null hypotheses, while the ninth and tenth hypotheses compare the values of residential academy board chairmen with residential academy principals, and college and university board chairmen with college and university presidents.

In the first section, each null hypothesis was repeated and related to the data in tabular form. In the tables the means, standard deviations, univariate, and multivariate analysis of variance was presented. The values of board chairmen and chief educational



administrators were described by ranking the order of the values according to the mean scores for the two groups.

The second section of the chapter presents the analysis of data based upon the independent variables as well as the comparison of board chairmen and chief educational administrators according to type of educational institution. The same presentation was given as in the first section of the chapter presenting the means, standard deviations, univariate and multivariate analysis of variance. The null hypotheses, if rejected, were rejected at the .05 level of confidence. If a hypothesis was not rejected, this fact was indicated by the letters "NS" in the tables. If rejected, the level of significance was indicated by an asterisk in the table. The discriminant analysis data were presented only when there was a significant difference in either the univariate or the multivariate analysis of variance. The means and standard deviations for all the analyses were rounded to one decimal place.

#### Presentation of Data on the First Six Null Hypotheses

The first six null hypotheses refer to the major purpose of the study. A summary of the six null hypotheses states that there were no significant differences between the six value scores of board chairmen and the six value scores of chief educational administrators as measured by the Study of Values scale. This section presents the data in three tables that relate to the first six null hypotheses.

Each null hypothesis was listed and discussed with regard to the means, standard deviations and univariate analysis of variance. In the final analysis of the first section of the chapter, the multivariate analysis of variance and the ranking of the values of board chairmen and chief educational administrators were discussed.

The first null hypothesis stated: There is no significant difference between the scores of board chairmen and chief educational administrators on the aesthetic value as measured by the Study of Values scale. In table 1 the means and standard deviations of thirty-three board chairmen and forty-five chief educational administrators were listed for each of the six values. The overall means and standard deviations were listed for the total combined group of seventy-eight board chairmen and chief educational administrators.

TABLE 1.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS

Values	Board Chairmen N = 33		Educational Adminis- trators N = 45		Overall Total N = 78	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.9	5.4	34.1	5.3	33.2	5.3
Economic	39.7	5.0	38.2	6.5	38.8	5.9
Political	39.8	4.8	39.8	5.3	39.8	5.1
Religious	51.6	6.7	53.1	5.4	52.5	6.0
Social	40.2	5.4	38.3	6.1	39.1	5.8
Theoretical	37.1	5.1	36.5	5.8	36.8	5.5

This table indicates that the mean score on the aesthetic value of the board chairmen, namely, 31.9, was lower than the mean score of the chief educational administrators which was 34.1. The standard deviation for both board chairmen and chief educational administrators were similar, 5.4 and 5.3 respectively, with the overall average of 5.3.

In table 2 the degrees of freedom, among mean square, within mean square, and F-ratio figures are listed for each of the six values. The last column in table 2 indicates the level of significance for each of the values. Table 2 also lists the data for the multivariate analysis which is used in the final comparison between the values of board chairmen and chief educational administrators.

TABLE 2.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analyses</b>					
Aesthetic	1 & 76	92.06	28.39	3.24	NS
Economic	1 & 76	40.06	34.79	1.15	NS
Political	1 & 76	.06	25.96	.00	NS
Religious	1 & 76	43.94	35.62	1.23	NS
Social	1 & 76	68.38	33.30	2.05	NS
Theoretical	1 & 76	6.16	30.42	.20	NS
<b>Multivariate Analysis</b>					
	6 & 71	-	-	1.97	NS

As noted in table 1, there was a difference in the mean scores of board chairmen and chief educational administrators on the aesthetic value; this difference, however, was not statistically significant as indicated in table 2. The univariate analysis of variance shows that the F-ratio was 3.24 for the aesthetic value, but was not statistically significant. The level of significance needed to reject the hypothesis at the .05 level was 3.97 with one and seventy-six degrees of freedom. The F-ratio for the aesthetic value failed to reject the first null hypothesis at the .05 level of confidence.

The second null hypothesis dealt with the economic value and stated: There is no significant difference between the scores of board chairmen and chief educational administrators on the economic value as measured by the Study of Values scale. In table 1 the economic value mean score of 39.7 for the board chairmen was higher than the 38.2 score obtained for the chief educational administrators. The standard deviation differed by 1.5 between the two groups, being 5.0 for the board chairmen and 6.5 for the chief educational administrators. The difference between the mean scores on the economic value in table 1 was not statistically significant for the univariate analysis as seen in table 2. The economic value in table 2 indicated an F-ratio of 1.15 which was not significant at the .05 level for one and seventy-six degrees of freedom. The significant value for one and seventy-six degrees of freedom at .05 level of significance is equal to 3.97. The F-ratio for the economic

value failed to reject the second null hypothesis at the .05 level of confidence.

The third null hypothesis for the study stated: There is no significant difference between the scores of board chairmen and chief educational administrators on the political value as measured by the Study of Values scale. In table 1 the political value mean score for board chairmen and chief educational administrators were identical, being 39.8 for both groups. Table 1 showed that there was a .5 difference between the standard deviations of board chairmen and chief educational administrators, with the chief educational administrators having a larger standard deviation. The overall standard deviation in table 1 indicated that the political value had the smallest standard deviation of all the six value scores listed. Due to the fact that there was no difference in the means between board chairmen and chief educational administrators on the political value, table 2 listed .00 as the F-ratio for the political value, and not significant at the .05 level. The F-ratio for the political value failed to reject the third null hypothesis at the .05 level of confidence.

The fourth null hypothesis dealt with the religious value and stated: There is no significant difference between the scores of board chairmen and chief educational administrators on the religious value as measured by the Study of Values scale. In table 1 the religious value mean score of 51.6 for the board chairmen was lower than the religious value mean score of 53.1 for the chief

educational administrators. The board chairmen in table 1 had a larger standard deviation (6.7) than that of the chief educational administrators (5.4) on the religious value. The overall mean score of 6.0 for the religious value was larger than any other of the value scores listed in table 1. The difference in the means as given in table 2 for the religious value was not statistically significant. The F-ratio for the religious value in table 2 was 1.23, while the significant level at the .05 level of confidence for one and seventy-six degrees of freedom was 3.97. The F-ratio for the religious value failed to reject the fourth null hypothesis at the .05 level of confidence.

The fifth null hypothesis stated: There is no significant difference between the scores of board chairmen and chief educational administrators on the social value as measured by the Study of Values scale. In table 1, the social value mean score of board chairmen was 1.9 larger than the 38.3 for the chief educational administrators. The standard deviation of board chairmen for the social value in table 1 was 5.4 as compared to 6.1 for the chief educational administrators. In table 1 the difference in the means as seen by the F-ratio was 2.05, while the level of significance at the .05 level with one and seventy-six degrees of freedom was 3.97. The F-ratio for the social value failed to reject the fifth null hypothesis at the .05 level of confidence.

The last of the six null hypotheses stated: There is no significant difference between the scores of board chairmen and

chief educational administrators on the theoretical value as measured by the Study of Values scale. In table 1 the theoretical value mean score of 37.1 of board chairmen was larger than the mean score of chief educational administrators of 36.5. The standard deviation of 5.0 on the theoretical value in table 1 for chief educational administrators was .7 larger than for the board chairmen. In table 2 the theoretical value was not significant, having an F-ratio of 2.0. The level of significance with one and seventy-six degrees of freedom at the .05 level was 3.97. The F-ratio for the theoretical value failed to reject the sixth null hypothesis at the .05 level of confidence.

It may, therefore, be seen that the data of the six values failed to reject the six null hypotheses that pertain to the major purpose of the study. The multivariate analysis of variance in table 2 with an F-ratio of 1.96 was not significant at the .05 level of confidence with six and seventy-one degrees of freedom. To reject the null hypothesis at the .05 level an F-ratio of 2.23 with six and seventy-one degrees of freedom would be required.

In table 3 the six values of thirty-three board chairmen and forty-five chief educational administrators were ranked from the highest to the lowest according to the mean scores as obtained from table 1.

Table 3 shows that the board chairmen and chief educational administrators had the same value ranking order on the religious, economic, theoretical, and aesthetic values. The two groups differed

on the ranking of the social and the political values, the board chairmen ranking the social value higher than did the chief educational administrators. The chief educational administrators ranked the political value higher than did the board chairmen.

TABLE 3.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS

Board Chairmen N = 33		Educational Administrators N = 45	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Political
3	Political	3	Social
4	Economic	4	Economic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

#### Presentation of Data on Null Hypotheses Seven to Ten

Hypotheses seven to ten compared the values scores of board chairmen and chief educational administrators on a number of independent variables. The independent variables that relate to each null hypothesis are briefly discussed. The seventh and eighth hypotheses related to comparisons of value scores of board chairmen and chief educational administrators on seven independent variables. The ninth and tenth hypotheses pertained to the comparison of the value scores of board chairmen and chief educational administrators



based on the type of institution, whether it was a residential academy, college, or university.

The data is presented in tabular form for each of the four null hypotheses. The data is presented in three tables for every comparison that is made. The first of the three tables presents the means and standard deviations for the groups being compared. The second table presents the data on the univariate and multivariate analysis of variance, while the third table rank orders the six values according to the means obtained for the six values in each group. In every comparison where a significant F-ratio was found on either the univariate or the multivariate analysis of variance, data from a discriminant analysis was included if it was significant at the .05 level of significance.

The null hypothesis was repeated for the presentation of the data. It was, however, not repeated for every comparison that was made for each independent variable. The four null hypotheses are presented in order with supporting data in tables.

The seventh null hypothesis stated: There is no significant difference between the scores of board chairmen and chief educational administrators based on the independent variables of age, non-administrative experience, years of administrative experience, highest degree held, educational major, and the number of years of schooling in Seventh-day Adventist institutions on the six values as measured by the Study of Values scale.

The independent variables were presented in order as given

in the null hypothesis, beginning with the independent variable of age. Based on the independent variable of age, the value scores of board chairmen and chief educational administrators were compared on two categories of age, namely, fifty years and less and fifty-one years and over. Table 4 presents the means and standard deviations of the six value scores of board chairmen and chief educational administrators who were less than fifty-one years of age.

In table 4 the means and standard deviations of ten board chairmen were compared to the means and standard deviations of thirty-three chief educational administrators. A total of forty-three respondents in the study were less than fifty-one years of age. In table 4 the greatest difference between the means of the two groups was found on the aesthetic and social values, both with a 3.2 difference. The economic, political, religious, and theoretical mean value scores had only minor differences. The standard deviations for the board chairmen in table 4 had a wider range than for the chief educational administrators with a standard deviation of 3.6 for the political value to a 7.7 for the religious value.

The univariate and multivariate analysis of variance are presented in table 5, based on the six value scores of board chairmen and chief educational administrators who were less than fifty-one years of age.

In table 4 it was noted that there were differences between the means of the board chairmen and chief educational administrators on the aesthetic and social values. Table 5 indicated that the

TABLE 4.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS LESS THAN FIFTY-ONE YEARS OF AGE

Values	Board Chairmen N = 10		Educational Adminis- trators N = 33		Overall Total N = 43	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.5	6.9	34.7	5.5	34.0	5.8
Economic	38.0	5.1	38.6	5.9	38.4	5.7
Political	39.1	3.6	39.9	5.1	39.7	4.8
Religious	53.0	7.7	52.6	5.6	52.7	6.1
Social	41.1	5.8	37.9	5.1	38.6	5.3
Theoretical	37.4	4.1	36.4	6.0	36.6	5.6

differences on the aesthetic and social values were not significant on the univariate analysis of variance at the .05 level of significance. To reject the hypothesis, an F-ratio of 4.07 with one and forty-one degrees of freedom would be required at the .05 level of significance. Both the univariate and the multivariate analyses were not significant at the .05 level of significance. The data failed to reject the null hypothesis that there was no difference on the six value scores of board chairmen and chief educational administrators based on the independent variable of age, less than fifty-one years, at the .05 level of confidence.

In table 6 the six values of board chairmen and chief educational administrators were ranked according to the means from the highest to the lowest score.

TABLE 5.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND EDUCATIONAL ADMINISTRATORS LESS THAN FIFTY-ONE YEARS OF AGE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analyses</b>					
Aesthetic	1 & 41	77.70	33.72	2.30	NS
Economic	1 & 41	2.86	32.54	.09	NS
Political	1 & 41	5.05	23.21	.22	NS
Religious	1 & 41	1.06	37.53	.03	NS
Social	1 & 41	77.91	28.25	2.76	NS
Theoretical	1 & 41	8.24	31.64	.26	NS
<b>Multivariate Analysis</b>					
	6 & 36	-	-	-1.63	NS

TABLE 6.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS LESS THAN FIFTY-ONE YEARS OF AGE

Board Chairmen N = 10		Educational Administrators N = 33	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Political
3	Political	3	Economic
4	Economic	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

The ten board chairmen and thirty-three chief educational administrators had a similar ranking for three values in table 6.

They were identical on the religious, theoretical, and aesthetic values. The chief educational administrators ranked the political and economic values higher than did the board chairmen, while the board chairmen ranked the social value higher than did the chief educational administrators.

The second comparison based on the independent variable of age, compared the six value scores of twenty-three board chairmen and twelve chief educational administrators who were more than fifty years of age. Almost half of the total population in the study were over fifty years of age. The total number of subjects in this category was thirty-five.

Table 7 presents the means and standard deviations of twenty-three board chairmen and twelve chief educational administrators who were over fifty years of age. In this table the economic and religious values showed the greatest differences when the means of two groups were compared. The chief educational administrators in table 7 had a mean of 54.5 for the religious value which was 3.5 higher than the religious mean score for the board chairmen. The board chairmen with an economic mean score of 40.4 was 3.2 greater than the chief educational administrators on the same value. The standard deviations for the chief educational administrators in table 7 ranged from 4.6 to 8.2, which was wider in range than for the board chairmen.

In table 8 the univariate and multivariate analysis of variance is presented. The differences in means on the economic and

TABLE 7.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS OVER FIFTY YEARS OF AGE

Values	Board Chairmen N=23		Educational Adminis- trators N = 12		Overall Total N = 35	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.0	4.8	32.4	4.6	32.2	4.7
Economic	40.4	4.9	37.2	8.1	39.3	6.2
Political	40.0	5.3	39.6	6.1	39.9	5.5
Religious	51.0	6.3	54.5	4.7	52.2	5.8
Social	39.8	5.2	39.3	8.2	39.6	6.4
Theoretical	37.0	5.5	37.0	5.5	37.0	5.5

TABLE 8.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS OVER FIFTY YEARS OF AGE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analyses</b>					
Aesthetic	1 & 33	1.10	22.06	.05	NS
Economic	1 & 33	79.90	37.95	2.11	NS
Political	1 & 33	1.39	30.74	.05	NS
Religious	1 & 33	95.52	33.64	2.84	NS
Social	1 & 33	1.45	40.67	.04	NS
Theoretical	1 & 33	.01	30.61	.00	NS
<b>Multivariate Analysis</b>					
	6 & 28	-	-	.93	NS

religious values as noted in table 7 were not significant at the .05 level of significance as presented in table 8. To reject the null

hypothesis an F-ratio of 4.14 would be required at the .05 level of significance with one and thirty-three degrees of freedom. The multivariate analysis in table 8 was not significant at the .05 level of significance. The data for this category of the independent variable of age failed to reject the null hypothesis at the .05 level of confidence.

Table 9 presents the rank order of the values of twenty-three board chairmen and twelve chief educational administrators based on the independent variable of age, over fifty years of age.

TABLE 9.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS OVER FIFTY YEARS OF AGE

Board Chairmen N = 23		Educational Administrators N = 12	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Economic	2	Political
3	Political	3	Social
4	Social	4	Economic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

The board chairmen in table 9 had an identical ranking to the chief educational administrators on the religious, theoretical, and aesthetic values. The chief educational administrators had a higher ranking on the political and social values than did the board

chairmen. The board chairmen ranked the economic value higher than did the chief educational administrators.

The six value scores of board chairmen and chief educational administrators were compared on the basis of the independent variable of age in tables 4-9. Tables 5 and 8 presented the data that tested the hypothesis that there was no statistical difference in the value scores of board chairmen and chief educational administrators based on age. The data for the independent variable of age failed to reject the null hypothesis at the .05 level of confidence.

In tables 6 and 9 the rank order of the values for board chairmen and chief educational administrators were presented for two categories of age, fifty-one years and less, and over fifty years of age. In each of the categories the board chairmen and chief educational administrators differed on some of the value rankings. The board chairmen, less than fifty-one years of age, had a different value ranking than did the board chairmen who were over fifty years of age; the same was true for the chief educational administrators. The economic, political, and social values varied the most in the value rankings in tables 6 and 9.

The second independent variable for the seventh hypothesis was a comparison of the value scores of board chairmen and chief educational administrators with non-administrative experience. The independent variable non-administrative experience was divided into two categories, first, a comparison between the two groups based on teaching-pastoral experience and, second, pastoral experience of



board chairmen compared to teaching experience of the chief educational administrators. The data for the second independent variable is presented in tables 10-15.

On the first category of the second independent variable, the value scores of seven board chairmen with pastoral-teaching experience were compared to the value scores of twelve chief educational administrators with similar pastoral-teaching experience. Tables 10, 11, and 12 present the data on the pastoral-teaching experience category.

TABLE 10.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH TEACHING AND PASTORAL EXPERIENCE

Values	Board Chairmen N = 7		Educational Adminis- trators N = 12		Overall Total N = 19	
	Mean	SD	Mean	Sd	Mean	SD
Aesthetic	31.3	3.7	34.1	3.2	33.1	3.4
Economic	40.7	4.2	36.5	6.7	38.1	5.9
Political	39.3	6.0	37.9	4.4	38.4	5.0
Religious	53.6	4.9	56.5	3.5	55.4	4.1
Social	35.4	3.0	38.7	4.5	37.5	4.0
Theoretical	39.7	6.1	36.3	4.2	37.6	5.0

In table 10 the means and standard deviations of the value scores of the seven board chairmen and twelve chief educational administrators are presented.

The differences in the means between the two groups ranged

from the political value with a 1.4 difference to the economic with a 4.2 difference. The standard deviations in table 10 had a similar range for both groups with the smallest overall standard deviation for the aesthetic value.

In table 11 the univariate and multivariate analysis of variance is presented with one and seventeen degrees of freedom for the univariate analysis, and six and twelve degrees of freedom for the multivariate analysis.

TABLE 11.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND EDUCATIONAL ADMINISTRATORS WITH TEACHING AND PASTORAL EXPERIENCE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 17	35.64	11.35	3.14	NS
Economic	1 & 17	78.52	34.94	2.25	NS
Political	1 & 17	8.80	25.00	.35	NS
Religious	1 & 17	37.92	16.39	2.31	NS
Social	1 & 17	46.36	16.17	2.87	NS
Theoretical	1 & 17	50.54	24.59	2.05	NS
<b>Multivariate Analysis</b>					
	6 & 12	-	-	2.39	NS

In table 11 the univariate analysis of variance showed that there were no values that were significant at the .05 level of significance. To reject the null hypothesis an F-ratio of 4.45, with one and seventeen degrees of freedom would be required at the .05 level

of significance. The multivariate analysis of variance in table 11 with six and twelve degrees of freedom was not significant at the .05 level of significance. The data for this category failed to reject the null hypothesis at the .05 level of confidence.

In table 12 the values of board chairmen and chief educational administrators were ranked according to the means in table 10.

TABLE 12.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH TEACHING AND PASTORAL EXPERIENCE

Board Chairmen N = 7		Educational Administrators N = 12	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Economic	2	Social
3	Theoretical	3	Political
4	Political	4	Economic
5	Social	5	Theoretical
6	Aesthetic	6	Aesthetic

According to table 12, the seven board chairmen had an identical ranking to the twelve educational administrators on two of the values--the religious and the aesthetic value. On the other four values in table 12, the board chairmen ranked the economic and the theoretical values higher than did the educational administrators, while the educational administrators ranked the social and the political values higher than did the board chairmen.

The second category of the independent variable, non-administrative experience, compared the value scores of board chairmen with pastoral experience with the value scores of chief educational administrators with teaching experience. In this category there were twenty-one board chairmen and seventeen chief educational administrators. Tables 13, 14, and 15 refer to the comparisons on this category of non-administrative experience.

In table 13, the means and standard deviations of the twenty-one board chairmen are compared with the means and standard deviations of seventeen chief educational administrators.

TABLE 13.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH PASTORAL EXPERIENCE AND CHIEF EDUCATIONAL ADMINISTRATORS WITH TEACHING EXPERIENCE

Values	Board Chairmen N = 21		Educational Adminis- trators N = 17		Overall Total N = 38	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	34.1	6.5	32.0	4.5	33.1	5.7
Economic	39.9	6.3	37.6	4.8	38.9	5.6
Political	40.8	4.8	41.4	3.3	41.1	4.2
Religious	50.9	5.8	52.4	4.8	51.6	5.4
Social	36.8	6.0	40.4	6.1	38.4	6.0
Theoretical	37.6	6.5	35.9	4.0	36.9	5.5

The largest differences between the means of board chairmen and chief educational administrators appeared on the aesthetic, economic, and social values. The range on the standard deviations for board

chairmen was from 4.8 on the political value to 6.5 on the aesthetic value. The range on the standard deviations for the chief administrators was from 3.3 on the political value to 6.1 on the social value.

Table 14 presents the data on the univariate and multivariate analysis of variance for the two groups on pastoral-teaching experience. The differences between the means of board chairmen and chief educational administrators in table 13 did not prove to be significant at the .05 level as presented in table 14.

TABLE 14.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH PASTORAL EXPERIENCE AND CHIEF EDUCATIONAL ADMINISTRATORS WITH TEACHING EXPERIENCE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 36	39.39	32.64	1.21	NS
Economic	1 & 36	47.12	31.84	1.48	NS
Political	1 & 36	3.96	17.75	.22	NS
Religious	1 & 36	20.55	28.92	.71	NS
Social	1 & 36	119.55	36.30	3.29	NS
Theoretical	1 & 36	27.21	30.64	.89	NS
<b>Multivariate Analysis</b>					
	6 & 31	-	-	1.15	NS

In table 14 the highest F-ratio was 3.29 for the social value but was not significant at the .05 level of significance with one and thirty-six degrees of freedom. To reject the null hypothesis at the

.05 level with one and thirty-six degrees of freedom would require an F-ratio of 4.11. The multivariate analysis in table 14 with an F-ratio of 1.15 was also not significant at .05 level of significance. On both the univariate analysis as well as the multivariate analysis, the difference between the means was not statistically significant.

In table 15 the values of twenty-one board chairmen and seventeen chief educational administrators are ranked from the highest to the lowest value according to the means as presented in table 13.

TABLE 15.—VALUES RANKED ACCORDING TO SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH PASTORAL EXPERIENCE AND CHIEF EDUCATIONAL ADMINISTRATORS WITH TEACHING EXPERIENCE

Board Chairmen N = 21		Educational Administrators N = 17	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Economic	3	Social
4	Theoretical	4	Economic
5	Social	5	Theoretical
6	Aesthetic	6	Aesthetic

In table 13, the board chairmen and the chief educational administrators were identical on their ranking of the religious, the political, and the aesthetic values but they differed on the economic, theoretical, and social values. The board chairmen ranked the

economic and theoretical values higher than did the chief educational administrators. The chief educational administrators ranked the social value higher than did the board chairmen.

In tables 10-15 the data was presented that pertained to the independent variable, non-administrative experience. In the first category of pastoral-teaching experience, seven board chairmen were compared to twelve chief educational administrators with an overall total of nineteen, while in the second category, twenty-one board chairmen with pastoral experience were compared to seventeen chief educational administrators with teaching experience. In tables 11 and 14 the multivariate and univariate analysis of variance was presented and no values proved significant at the .05 level of significance. The data failed to reject the null hypothesis that there was no difference between the values of board chairmen and chief educational administrators based on the independent variable of non-administrative experience at the .05 level of confidence. In tables 12 and 15 the values of the two groups were ranked from highest to lowest according to the six mean scores. Differences in ranking the values between board chairmen and chief educational administrators were noted in tables 12 and 15.

The third independent variable that related to the seventh null hypothesis was concerned with the years of administrative experience for the two groups. The data was presented in three categories: the first category concerned those who had less than eleven years of administrative experience, the second category

concerned those with eleven to twenty years of experience, and the third category concerned those with twenty-one or more years of administrative experience. The null hypothesis stated that there was no difference in the value scores of board chairmen and chief educational administrators based on the years of administrative experience.

In the first category there were fourteen board chairmen and nineteen chief educational administrators with an overall total of thirty-four who had less than eleven years of administrative experience. In tables 16, 17 and 18 the data that refers to this category is presented.

TABLE 16.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN ELEVEN YEARS OF ADMINISTRATIVE EXPERIENCE

Values	Board Chairmen N = 14		Educational Adminis- trators N = 19		Overall Total N = 33	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.9	6.3	34.6	4.8	33.9	5.5
Economic	38.1	4.7	40.4	6.2	39.4	5.6
Political	40.1	3.7	38.8	5.5	39.3	4.8
Religious	52.5	6.7	52.1	5.6	52.3	6.1
Social	41.0	5.8	37.6	5.3	39.0	5.5
Theoretical	35.7	4.8	36.6	5.6	36.2	5.3

In table 16 the means of the board chairmen were compared with the means of chief educational administrators. The greatest difference



between the means was found on the social value. The standard deviation for the board chairmen ranged from 3.7 to 6.7, and for the chief educational administrators it ranged from 4.8 for the aesthetic value to 6.2 for the economic value.

Table 17 presents the data for the univariate and multivariate analysis of variance of the six value scores of the two groups with less than eleven years of administrative experience.

TABLE 17.—UNIVARIATE AND MULTIVARIATE ANALYSES OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN ELEVEN YEARS OF ADMINISTRATIVE EXPERIENCE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
Univariate Analysis					
Aesthetic	1 & 31	21.27	29.88	.71	NS
Economic	1 & 31	42.53	31.40	1.35	NS
Political	1 & 31	13.80	23.33	.59	NS
Religious	1 & 31	1.14	37.05	.03	NS
Social	1 & 31	94.34	30.38	3.11	NS
Theoretical	1 & 31	6.40	27.62	.23	NS
Multivariate Analysis					
	6 & 26	-	-	1.47	NS

In table 17, on the univariate analysis of variance, no values were found to be significant at the .05 level. The social value with a 3.11 F-ratio was not sufficient to reject the null hypothesis at the .05 level of confidence. The F-ratio needed to reject the null hypothesis was 4.17 at the .05 level of significance with one

and thirty-two degrees of freedom. The multivariate analysis of variance F-ratio also proved not to be significant at the .05 level of significance. The F-ratio needed to reject the null hypothesis on the multivariate analysis was 2.46 with six and twenty-seven degrees of freedom at the .05 level of significance. There were no value scores found to be significant on either the univariate analysis or the multivariate analysis of variance and thus the data on this comparison failed to reject the null hypothesis at the .05 level of confidence.

In table 18, the values of board chairmen and chief educational administrators were ranked from the highest to the lowest, based on the means presented in table 16.

TABLE 18.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN ELEVEN YEARS OF ADMINISTRATIVE EXPERIENCE

Board Chairmen N = 14		Educational Administrators N = 19	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Economic
3	Political	3	Political
4	Economic	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In table 18, the fourteen board chairmen were compared to nineteen chief educational administrators on the ranking of the six

values. The two groups were the same on the ranking of the religious, political, theoretical, and aesthetic values. The board chairmen ranked the social value higher than did the chief educational administrators, while the chief educational administrators ranked the economic value higher than did the board chairmen.

The second category of the independent variable, years of administrative experience, was based on eleven to twenty years of administrative experience. In this category there were fifteen board chairmen and sixteen chief educational administrators making a combined total of thirty-one. Tables 19, 20, and 21 present the data for this category.

In table 19, the means and standard deviations for the six value scores of board chairmen and chief educational administrators are listed.

TABLE 19.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH ELEVEN TO TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Values	Board Chairmen N = 15		Educational Adminis- trators N = 16		Overall Total N = 31	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.1	4.5	34.3	6.3	33.2	5.5
Economic	39.8	4.9	37.3	5.9	38.5	5.5
Political	40.1	5.2	39.8	4.6	39.9	4.9
Religious	51.2	7.2	53.5	5.7	52.4	6.5
Social	39.0	4.4	38.9	5.4	38.9	5.0
Theoretical	37.9	5.1	36.3	6.5	37.0	5.8

The board chairmen in table 19 had a standard deviation range from 4.5 on the aesthetic value to a 7.2 on the religious value. The chief educational administrators had a standard deviation range from 4.6 on the political value to a 6.5 on the theoretical value. The main differences between the means of the board chairmen and chief educational administrators were on the aesthetic, the economic, and religious values.

Table 20 presents the univariate and multivariate analysis of variance of the six value scores of board chairmen and chief educational administrators with eleven to twenty years of administrative experience.

TABLE 20.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH ELEVEN TO TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 29	39.05	30.05	1.30	NS
Economic	1 & 29	46.64	26.69	1.57	NS
Political	1 & 29	.78	24.17	.03	NS
Religious	1 & 29	39.82	41.95	.95	NS
Social	1 & 29	.12	24.53	.00	NS
Theoretical	1 & 29	20.23	34.13	.59	NS
<b>Multivariate Analysis</b>					
	6 & 24	-	-	28.68	2.51*

\*: Significant at the .05 level of significance

The mean differences that were noted in table 19 on the aesthetic, economic, and religious values did not prove to be significant at the .05 level of significance in table 20 on the univariate analysis of variance. The economic value had the highest F-ratio with 1.7, but to reject the null hypothesis an F-ratio of 4.18 was needed with one and thirty-nine degrees of freedom at the .05 level of significance. In table 20 the data for the multivariate analysis of variance is presented. The F-ratio of 28.68 at the .05 level of significance was significant. To reject the null hypothesis on the multivariate analysis of variance an F-ratio of 2.51 with six and twenty-four degrees of freedom was necessary at the .05 level of significance. The null hypothesis was rejected on the data for the multivariate analysis of variance at the .05 level of confidence.

A discriminant analysis was conducted on the six value scores of board chairmen and chief educational administrators with eleven to twenty years of administrative experience. The analysis of the data for the discriminant analysis yielded a total variation of 16.07, which was tested for significance at the .05 level by a chi square with six degrees of freedom. The chi square with six degrees of freedom yielded a critical value of 12.59 at the .05 level of significance. The total variation was accepted as significant and further analyses were undertaken to ascertain which variables contributed the most in discriminating between board chairmen and chief educational administrators. The discriminant function means for board chairmen were 5945.5156, while for the

chief educational administrators it was larger, having a mean of 5945.5195. The discriminant function coefficients for the six values were as follows: aesthetic, 135.7944; economic, 134.9740; political, 121.7906; religious, 160.4447; social, 122.6864; and theoretical, 144.7215. The religious value had the highest coefficient, while the political and social values had the lowest. The religious value contributed the most in discriminating between board chairmen and chief educational administrators while the social and political values contributed the least.

In table 21 the values of board chairmen and chief educational administrators were ranked from the highest to the lowest according to the means.

TABLE 21.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH ELEVEN TO TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Board Chairmen N = 15		Educational Administrators N = 16	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Economic	3	Social
4	Social	4	Economic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

The fifteen board chairmen had an identical value ranking as the sixteen chief educational administrators on the religious,

the theoretical, the aesthetic, and political values. The chief educational administrators ranked the social value higher than did the board chairmen, while the board chairmen ranked the economic value higher than did the chief educational administrators.

The six value scores of board chairmen were compared to the six value scores of chief educational administrators with twenty-one years and more of administrative experience. In this category there were four board chairmen and eight educational administrators, making a total of twelve subjects. Tables 22, 23, and 24 present the data for this category.

The means and standard deviations of the four board chairmen and the eight chief educational administrators are presented in table 22.

TABLE 22.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH OVER TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Values	Board Chairmen N = 4		Educational Adminis- trators N = 8		Overall Total N = 12	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	27.5	3.8	32.2	5.1	30.6	4.8
Economic	44.8	4.0	36.1	7.9	39.0	6.9
Political	37.5	6.9	41.8	6.1	40.3	6.4
Religious	49.8	5.4	53.9	5.0	52.5	5.1
Social	41.5	7.5	38.9	9.5	39.8	8.9
Theoretical	39.0	6.4	37.2	6.4	37.8	6.4

The means, in table 22, of the six values of the four board chairmen and eight chief educational administrators were compared and the greatest differences were found on the economic and aesthetic values. The economic value differed by 8.7 and the aesthetic value by 4.7. The standard deviations for the board chairmen ranged from 3.8 on the aesthetic value to 7.5 on the social value. The standard deviation for the eight chief educational administrators ranged from 5.0 for the religious value to 9.5 on the social value.

The data on the univariate and the multivariate analysis of variance is presented in table 23.

TABLE 23.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH OVER TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 10	58.59	22.75	2.58	NS
Economic	1 & 10	201.26	48.20	4.18	NS
Political	1 & 10	48.17	40.45	1.19	NS
Religious	1 & 10	46.76	26.40	1.77	NS
Social	1 & 10	18.37	79.99	.23	NS
Theoretical	1 & 10	8.76	40.65	.22	NS
<b>Multivariate Analysis</b>					
Analysis	6 & 5	-	-	331.41	4.95*

\*: Significant at the .05 level of significance

The difference between the means as presented in table 22 proved not to be significant on the univariate analysis of variance at the .05



level of significance. The economic value had an F-ratio of 4.18 with one and ten degrees of freedom. The F-ratio needed to reject the null hypothesis with one and ten degrees of freedom was 4.96 at the .05 level of significance. The data on the univariate analysis of variance yielded no value scores that were significant at the .05 level of significance. The data on the multivariate analysis of variance with six and five degrees of freedom yielded an F-ratio of 331.41, which was significant at the .05 level of significance. The null hypothesis was rejected on the basis of the data for the multivariate analysis of variance at the .05 level of confidence.

A discriminant analysis was conducted on the data for board chairmen and chief educational administrators having over twenty years of administrative experience. The analysis of the data for the discriminant analysis yielded a total variation of 3620.25, which was tested for significance at the .05 level by a chi square with six degrees of freedom. The chi square with six degrees of freedom yielded a critical value of 12.59 at the .05 level of significance. The total variation was accepted as significant and further analyses were performed to ascertain which variables contributed the most in discriminating between board chairmen and chief educational administrators. The discriminant function mean, 44373.2070, was smaller for the board chairmen than the 44373.2109 mean for the chief educational administrators. The discriminant function coefficients for the six values were as follows: aesthetic

881.7998, economic 1283.5640, political 1175.8979, religious 949.9187, social 1653.5627, and theoretical 1178.7559. The social value had the highest coefficient, while the religious and aesthetic values had the lowest coefficient. The social value contributed the most in discriminating between board chairmen and chief educational administrators while the religious and aesthetic values contributed the least.

The data for the univariate analysis of variance failed to reject the null hypothesis at the .05 level of confidence. However, the null hypothesis was rejected on the data for the multivariate analysis of variance in table 23 at the .05 level of confidence.

In table 24 the rank order of the values according to the six mean scores of four board chairmen and eight chief educational administrators is presented. The four board chairmen differed in the rank order of values from the eight chief educational administrators on the economic and political values. The two groups were identical on their ranking of the religious, social, theoretical, and aesthetic values. The board chairmen ranked the economic value in the second position while the chief educational administrators ranked the economic value in the fifth position. The chief educational administrators ranked the political value very high while the board chairmen ranked the political value second to the bottom of the list. The two groups differed markedly on the ranking of the economic and political values.

TABLE 24.--VALUES RANKED ACCORDING TO SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH OVER TWENTY YEARS OF ADMINISTRATIVE EXPERIENCE

Board Chairmen N = 4		Educational Administrators N = 8	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Economic	2	Political
3	Social	3	Social
4	Theoretical	4	Theoretical
5	Political	5	Economic
6	Aesthetic	6	Aesthetic

In tables 17, 20, and 23 the data were presented for the univariate and multivariate analysis of variance with regard to the independent variable, years of administrative experience. In each of the three categories no significant differences were found on any of the values at the .05 level of significance for the univariate analysis of variance.

The null hypothesis was rejected on the data for the multivariate analysis of variance as presented in tables 20 and 23, but failed to be rejected for the data in table 17 at the .05 level of confidence. The discriminant analysis indicated that the religious value discriminated best between board chairmen and chief educational administrators for the second category of the independent variable, while the social value was the best discriminator for the third

category of the independent variable. The rank order of the values of the six mean scores of the board chairmen and the chief educational administrators were identical in all three categories for the religious and the aesthetic values. Caution must be observed in interpreting the data from tables 22, 23, and 24 because of the small number of subjects involved in each group.

The fourth independent variable listed for comparison in the seventh hypothesis refers to the highest academic degree held by the board chairmen and the chief educational administrators. Four categories were developed to facilitate the comparison of the groups composed of board chairmen and chief educational administrators. The first category for comparison compared the scores of board chairmen and the chief educational administrators with bachelor's degrees. The second category for comparison compared the two groups with master's degrees. The third category was a comparison between board chairmen with master's or bachelor's degrees and chief educational administrators with master's or bachelor's degrees. The final comparison was between board chairmen with master's degrees and chief educational administrators with doctor's degrees. A comparison was not possible between board chairmen with doctor's degrees and chief educational administrators with doctor's degrees because no board chairmen held doctor's degrees.

The data on the first category, comparing the board chairmen and the chief educational administrators with bachelor's degrees is presented in tables 25-27. The twenty-five board chairmen with

bachelor's degrees were compared to three chief educational administrators with bachelor's degrees. The data from this category must be interpreted with care because of the small number of chief educational administrators. Table 25 presents the means and standard deviations of the six value scores of twenty-five board chairmen and three chief educational administrators with bachelor's degrees as the highest academic degree held.

TABLE 25.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S DEGREES

Values	Board Chairmen		Educational Adminis- trators		Overall Total	
	N = 25		N = 3		N = 28	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.0	5.7	32.5	1.5	32.0	5.5
Economic	40.2	4.9	38.7	7.2	40.0	5.2
Political	39.1	4.7	43.8	3.6	39.6	4.7
Religious	51.6	7.1	52.5	2.6	51.7	6.9
Social	40.1	5.4	38.3	4.5	39.9	5.3
Theoretical	37.1	5.6	34.1	2.4	36.8	5.4

The differences between the means of board chairmen and chief educational administrators in table 25 was small except for the political value which was 4.7. The standard deviation for the board chairmen ranged from 4.7 for the political value to 7.1 on the religious value. The standard deviation for the chief educational administrators ranged from 1.5 for the aesthetic value to 7.2 for

the economic value. The small number of chief educational administrators probably accounts for the wide range in the standard deviation for this group.

In table 26 the univariate and multivariate analysis of variance of the six value scores of board chairmen and the chief educational administrators with bachelor's degrees is presented.

TABLE 26.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S DEGREES

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 26	.78	30.23	.03	NS
Economic	1 & 26	6.30	26.54	.24	NS
Political	1 & 26	61.03	21.67	2.82	NS
Religious	1 & 26	2.37	46.91	.05	NS
Social	1 & 26	8.17	28.31	.29	NS
Theoretical	1 & 26	23.68	29.57	.80	NS
<b>Multivariate Analysis</b>					
	6 & 21	-	-	.43	NS

The obtained mean difference as noted from table 25 on the political value was found not to be significant in the univariate analysis of variance at the .05 level of significance in table 26. The F-ratio for the political value was 2.82, while 4.22 with one and twenty-six degrees of freedom was needed to be significance at the .05 level of significance. The F-ratio for the multivariate ana-

lysis in table 26 was .43 which was not significant at the .05 level of significance. The obtained F-ratio failed to reject the null hypothesis that there was no difference between the means of board chairmen and chief educational administrators with bachelor's degrees at the .05 level of confidence.

The rank order of values according to the six mean scores of twenty-five board chairmen and three chief educational administrators is presented in table 27.

TABLE 27.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S DEGREES

Board Chairmen N = 25		Educational Administrators N = 3	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Economic	2	Political
3	Social	3	Economic
4	Political	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

The board chairmen had an identical ranking to the chief educational administrators on the religious, theoretical, and aesthetic values. The board chairmen ranked the economic and social values higher than did the educational administrators. The chief educational administrators ranked the political value higher than did the board chairmen.

The data for comparing eight board chairmen and thirty-two chief educational administrators with master's degrees is presented in tables 28, 29, and 30. The data on the first two categories of the independent variable, highest academic degree held, indicated that the majority of the board chairmen held the bachelor's degree, while the majority of the chief educational administrators held the master's degree as the highest academic degree.

In table 28, the means and standard deviations for the eight board chairmen and the thirty-two chief educational administrators is presented.

TABLE 28.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH MASTER'S DEGREES

Values	Board Chairmen		Educational Adminis- trators		Overall Total	
	N = 8		N = 32		N = 40	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.6	4.6	33.8	5.7	33.4	5.5
Economic	37.9	5.2	39.3	6.2	39.0	6.0
Political	41.9	4.5	38.7	4.6	39.3	4.6
Religious	51.7	5.6	52.6	5.5	52.4	5.5
Social	40.4	5.6	38.6	6.9	38.9	6.7
Theoretical	36.9	3.2	37.1	5.9	37.1	5.5

In table 28, the political value showed the largest difference between the means of board chairmen and chief educational administrators than any of the other values listed. The standard deviation



for board chairmen ranged from 3.2 on the theoretical value to 5.6 on the religious and social values. The standard deviation range for the chief educational administrators was from 4.6 on the political value to 6.9 on the social value.

Table 29 presents the univariate and multivariate analysis of variance of the six value scores of the board chairmen and chief educational administrators with master's degrees.

TABLE 29.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH MASTER'S DEGREES

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 38	30.19	30.43	.99	NS
Economic	1 & 38	11.56	36.40	.32	NS
Political	1 & 38	68.91	21.22	3.25	NS
Religious	1 & 38	5.47	30.07	.18	NS
Social	1 & 38	21.39	44.66	.48	NS
Theoretical	1 & 38	.18	30.41	.01	NS
<b>Multivariate Analysis</b>					
	6 & 33	-	-	1.81	NS

In table 29 the univariate analysis of variance data was presented and none of the values proved to be significant at the .05 level of significance. Although the political value means had the greatest difference of all the values in table 28, this difference, however, was not statistically significant for the univariate analysis of

variance. To be significant for the univariate analysis with one and thirty-eight degrees of freedom an F-ratio of 4.10 was necessary at the .05 level of significance. The multivariate analysis of variance with six and thirty-three degrees of freedom was not significant at the .05 level of significance. The data for this category failed to reject the null hypothesis at the .05 level of confidence. There was no statistical difference between the means of board chairmen and chief educational administrators with master's degrees.

In table 30 the rank order of the values of the six mean scores of board chairmen and chief educational administrators is listed from the highest to the lowest.

TABLE 30.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH MASTER'S DEGREES

Board Chairmen N = 8		Educational Administrators N = 32	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Economic
3	Social	3	Political
4	Economic	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In table 30 the two groups were identical on the religious, theoretical, and aesthetic values. The board chairmen ranked the poli-

tical and social values higher than did the chief educational administrators. The chief educational administrators ranked the economic value higher than did the board chairmen.

The third category of the independent variable, highest academic degree held, was a comparison between the board chairmen with bachelor's or master's degrees and chief educational administrators with bachelor's or master's degrees. The thirty-three board chairmen in the group comprised the total population of board chairmen in the study and were compared to thirty-five chief educational administrators. The two groups combined gave a total of sixty-eight subjects. The data for this category is presented in tables 31, 32, and 33.

In table 31 the means and standard deviations of the six value scores of the thirty-three board chairmen were compared to the means and standard deviations of thirty-five chief educational administrators.

In table 31 the largest difference between the means was found on the aesthetic and the social values. In table 31 the standard deviation for the board chairmen ranged from 4.8 on the political value to 6.7 on the religious value. The standard deviation for the chief educational administrators ranged from 4.8 on the political value to 6.7 on the social value.

The data on the univariate and the multivariate analysis of variance of the six value scores of board chairmen and chief educational administrators with master's or bachelor's degrees is

**TABLE 31.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S OR MASTER'S DEGREES**

Values	Board Chairmen		Educational Adminis- trators		Overall Total	
	N = 33		N = 35		N = 68	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.9	5.4	33.7	5.5	32.8	5.4
Economic	39.7	5.0	39.2	6.2	39.4	5.7
Political	39.8	4.8	39.1	4.8	39.4	4.8
Religious	51.6	6.7	52.6	5.3	52.1	6.0
Social	40.2	5.4	38.5	6.7	39.3	6.1
Theoretical	37.1	5.1	36.9	5.7	36.9	5.4

**TABLE 32.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S OR MASTER'S DEGREES**

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 66	55.50	29.51	1.88	NS
Economic	1 & 66	3.08	31.90	.10	NS
Political	1 & 66	7.34	22.63	.32	NS
Religious	1 & 66	17.25	35.80	.48	NS
Social	1 & 66	44.77	36.87	1.21	NS
Theoretical	1 & 66	.98	29.52	.03	NS
<b>Multivariate Analysis</b>					
	6 & 61	-	-	1.40	NS

presented in table 32. The F-ratio for the aesthetic value was 1.88 and for the social value 1.21 with one and sixty-six degrees of freedom, but both of these F-ratios were not significant at the .05 level of significance. To reject the null hypothesis for the six value scores on the univariate analysis of variance with one and sixty-six degrees of freedom at the .05 level would require an F-ratio of 3.99. The multivariate analysis of variance had an F-ratio of 1.40 which was not sufficient to reject the null hypothesis which required an F-ratio of 2.25 with six and sixty-one degrees of freedom at the .05 level of significance. The data for this category failed to reject the null hypothesis that there was no difference in the value scores of board chairmen and chief educational administrators with master's or bachelor's degrees at the .05 level of confidence.

The rank order of the values of the six mean scores of thirty-three board chairmen and thirty-five chief educational administrators is presented in table 33. The thirty-three board chairmen in this table had an identical ranking with the chief educational administrators on the religious, theoretical, aesthetic, and political values. The two groups differed on the ranking of the social and economic values. The board chairmen ranked the social value higher than did the chief educational administrators while the chief educational administrators ranked the economic value higher than did the board chairmen.

TABLE 33.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH BACHELOR'S OR MASTER'S DEGREES

Board Chairmen N = 33		Educational Administrators N = 35	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Economic
3	Political	3	Political
4	Economic	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

The fourth category of the independent variable, highest academic degree held, was a comparison between eight board chairmen with master's degrees and ten chief educational administrators with doctor's degrees. The data on this category is presented in tables 34 35, and 36, and the combined number of subjects in the category is eighteen.

In table 34, the means and standard deviations of the six value scores of the eight board chairmen and the ten chief educational administrators are presented. The smallest difference between the means of board chairmen and chief educational administrators in table 34 was for the theoretical and political values. The largest differences between the means for these two groups was on the aesthetic and social values. The standard deviation for the board chairmen ranged from 3.2 on the theoretical value to 5.6

on the religious and social values. The standard deviation for the chief educational administrators ranged from 3.1 on the social value to 6.6 on the political value.

TABLE 34.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH MASTER'S DEGREES AND CHIEF EDUCATIONAL ADMINISTRATORS WITH DOCTOR'S DEGREES

Values	Board Chairmen N = 8		Educational Adminis- trators N = 10		Overall Total N = 18	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.6	4.6	35.5	4.5	33.8	4.6
Economic	37.9	5.2	34.6	6.4	36.1	5.9
Political	41.9	4.5	42.4	6.6	42.2	5.8
Religious	51.7	5.6	54.9	5.8	53.5	5.7
Social	40.4	5.6	37.3	3.1	38.7	4.4
Theoretical	36.9	3.2	35.4	6.2	36.1	5.1

The data for the univariate and multivariate analysis of variance is presented in table 35 for board chairmen with master's degrees and educational administrators with doctor's degrees. The aesthetic and the social values that had the highest mean difference on table 34 were not significant at the .05 level of significance in table 35 for the univariate analysis of variance. There were no values that were significant on the univariate analysis of variance but on the multivariate analysis with six and eleven degrees of freedom there was a significant F-ratio of 4.26 at the .05 level of significance. On the data of the multivariate

analysis of variance the null hypothesis was rejected at the .05 level of confidence.

TABLE 35.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH MASTER'S DEGREES AND CHIEF EDUCATIONAL ADMINISTRATORS WITH DOCTOR'S DEGREES

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 16	65.02	20.69	3.14	NS
Economic	1 & 16	49.50	35.26	1.40	NS
Political	1 & 16	.95	33.41	.03	NS
Religious	1 & 16	45.87	32.65	1.40	NS
Social	1 & 16	42.02	19.00	2.21	NS
Theoretical	1 & 16	11.20	26.08	.43	NS
<b>Multivariate Analysis</b>					
	6 & 11	-	-	4.26	3.09*

\*: Significant at the .05 level of significance

The analysis of the data for the discriminant analysis yielded a total variation of 37.2 which was tested for significance with a chi square with six degrees of freedom at .05 level of significance. The chi square with six degrees of freedom yielded a critical value of 12.59, which indicated that the total variation was significant at the .05 level of significance. The discriminant function mean for the board chairmen was 226.6 which was larger than the mean of 223.7 for the chief educational administrators. The discriminant function coefficient for the six values were as follows: aesthetic 3.2, economic 5.6, political 5.2, religious 4.5, social



5.3, and for the theoretical 5.4. The highest cluster of values was for the economic, theoretical, social, and political, while the lowest was for the aesthetic. The four highest values seemed to contribute the most in discriminating between board chairmen and chief educational administrators, while the aesthetic value contributed the least. This implied that the board chairmen are more theoretical, economical, social, and political than the chief educational administrators on this comparison.

The rank order of the values according to the mean scores of board chairmen with master's degrees and chief educational administrators with doctor's degrees is presented in table 36.

TABLE 36.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH MASTER'S DEGREES AND CHIEF EDUCATIONAL ADMINISTRATORS WITH DOCTOR'S DEGREES

Board Chairmen N = 8		Educational Administrators N = 10	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Social	3	Social
4	Economic	4	Aesthetic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Economic

The values of board chairmen and chief educational administrators were ranked according to the mean scores from the highest to the lowest. The board chairmen and the chief educational administrators

in table 36 had identical rankings on the following values: religious, political, social, and theoretical, but they differed on the economic and aesthetic values. On this comparison, the eight board chairmen ranked the economic value higher than did the chief educational administrators. The chief educational administrators in turn had a higher ranking on the aesthetic value than did the board chairmen.

The data on the independent variable, highest academic degree held, was presented in tables 25 through 36. In the four categories where the comparisons were made, the data from three categories failed to reject the null hypothesis but in the fourth category on the multivariate analysis of variance the null hypothesis was rejected. A comparison of the means of chief educational administrators with bachelor's degrees and chief educational administrators with doctor's degrees showed that there was a difference in the ranking of the values of the two groups. This was also true for the board chairmen with bachelor's degrees when compared to board chairmen with master's degrees. There was a difference in the ranking of the values according to highest degree held. The board chairmen on the four categories agreed on the ranking of three values: the religious value being the highest, then the theoretical, and then the aesthetic value. The chief educational administrators had the same ranking on two values in all four categories: first, the religious value and then the theoretical value being fifth on the list.

The fifth independent variable that related to the seventh null hypothesis compared the six value scores of board chairmen and chief educational administrators on the major field of study. Three categories of board chairmen and chief educational administrators were compared. The data for these comparisons on the three categories are found in tables 37-45.

In tables 37-39 the six value scores of twenty-four board chairmen are compared to the value scores of the twenty-nine chief educational administrators based on the first category of the major field of study. For the board chairmen it was theology and for the chief educational administrators it was education. The total number of subjects in the group was 53.

In table 37, the means and standard deviations of the six value scores of twenty-four board chairmen and twenty-nine chief educational administrators are presented. The largest difference between the means of board chairmen and chief educational administrators in table 37 was found on the social and aesthetic values. The standard deviation for the board chairmen ranged from 4.1 on the theoretical value to 7.1 on the religious value. The standard deviation for the chief educational administrators ranged from 5.3 on the religious value to 6.9 on the social value.

The data on the univariate and multivariate analysis of variance is presented in table 38. The differences between the means as presented in table 37 were not found to be significant on the univariant analysis of variance in table 38 at the .05 level of

TABLE 37.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH EDUCATION AS MAJOR FIELD OF STUDY

Values	Board Chairmen N = 24		Educational Adminis- trators N = 29		Overall Total N = 53	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.1	5.8	34.0	6.0	33.1	5.9
Economic	39.2	5.2	38.1	6.1	38.6	5.7
Political	40.5	4.3	40.3	5.4	40.4	4.9
Religious	51.9	7.1	52.9	5.3	52.4	6.2
Social	40.4	5.9	38.4	6.9	39.3	6.5
Theoretical	36.0	4.1	36.3	6.0	36.2	5.3

TABLE 38.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH EDUCATION AS MAJOR FIELD OF STUDY

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 51	43.66	34.46	1.27	NS
Economic	1 & 51	15.46	32.48	.48	NS
Political	1 & 51	.32	24.03	.01	NS
Religious	1 & 51	14.19	38.25	.37	NS
Social	1 & 51	52.91	42.16	1.26	NS
Theoretical	1 & 51	.66	27.60	.02	NS
<b>Multivariate Analysis</b>					
	4 & 46	-	-	1.21	NS

significance. The aesthetic value had an F-ratio of 1.27 with one and fifty-one degrees of freedom while the social value had an F-ratio of 1.26. Neither of these were significant at the .05 level of significance. The multivariate analysis of variance in table 38 with six and forty-six degrees of freedom had an F-ratio of 1.21 which was not significant at the .05 level of significance. For both the univariate and the multivariate analysis of variance no values were found to be significant at the .05 level, and thus the data failed to reject the null hypothesis at the .05 level of confidence.

In table 39, the values are ranked according to the six mean scores of twenty-four board chairmen and twenty-nine chief educational administrators.

TABLE 39.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH EDUCATION AS MAJOR FIELD OF STUDY

Board Chairmen N = 24		Educational Administrators N = 29	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Social	3	Social
4	Economic	4	Economic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In the comparison and the ranking of the means from the highest to the lowest in table 39, the board chairmen had an identical ranking to the chief educational administrators on all six of the values, with the religious having the highest position and the aesthetic having the lowest position.

The second category of the independent variable, major field of study, was a comparison of scores of board chairmen with theology as a major field of study compared to the chief educational administrators with the social sciences as a major field of study. In this comparison there were twenty-four board chairmen and seven chief educational administrators, making an overall total of thirty-one.

Tables 40-42 present the data which compares the scores of board chairmen with theology and chief educational administrators with the social sciences as major fields of study.

In table 40 the means and standard deviations of the six value scores of the twenty-four board chairmen were compared to the means and standard deviations of seven chief educational administrators. In this table, the social value had a difference of 4.0 between the mean of the board chairmen and that of the chief educational administrators. The standard deviations for the board chairmen ranged from 4.1 on the theoretical value to 7.1 on the religious value. The standard deviation for the chief educational administrators ranged from 4.9 on the aesthetic value to 7.2 on the economic value.

TABLE 40.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SOCIAL SCIENCE AS MAJOR FIELD OF STUDY

Values	Board Chairmen N = 24		Educational Adminis- trators N = 7		Overall Total N = 31	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.1	5.8	34.4	4.9	32.6	5.6
Economic	39.2	5.2	39.5	7.2	39.3	5.6
Political	40.5	4.3	41.0	6.9	40.6	5.0
Religious	51.9	7.1	51.4	6.1	51.8	6.9
Social	40.4	5.9	36.4	5.3	39.5	5.8
Theoretical	36.0	4.1	37.4	6.7	36.3	4.8

The univariate and multivariate analysis of variance for the twenty-four board chairmen and seven chief educational administrators is presented in table 41. The F-ratios in table 41 for the univariate analysis of variance for the six values were not significant at the .05 level of significance. The social value had the highest F-ratio, 2.7, but was not significant at the .05 level of significance. To be significant at the .05 level an F-ratio of 4.18 with one and twenty-nine degrees of freedom would be needed. On the multivariate analysis of variance in table 41, the F-ratio of .75 with six and twenty-four degrees of freedom was not significant at .05 level of significance. Both the univariate analysis and the multivariate analysis of variance produced no F-ratios which

were found to be significant at the .05 level of significance. The data for this category failed to reject the null hypothesis at the .05 level of confidence.

TABLE 41.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SOCIAL SCIENCE AS MAJOR FIELD OF STUDY

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 29	27.00	31.43	.86	NS
Economic	1 & 29	.53	31.86	.02	NS
Political	1 & 29	1.36	24.47	.06	NS
Religious	1 & 29	1.10	47.67	.02	NS
Social	1 & 29	90.23	33.36	2.70	NS
Theoretical	1 & 29	9.38	22.61	.41	NS
<b>Multivariate Analysis</b>					
	6 & 24	-	-	.75	NS

The rank order of the values according to the six mean scores of twenty-four board chairmen and seven chief educational administrators is presented in table 42. In this table, the rank order of values for board chairmen were identical to the rank order of values for chief educational administrators on the religious, political, and aesthetic values. The rank order was different on the economic, theoretical, and social values. The chief educational administrators ranked the economic and theoretical values higher



than did the board chairmen, but the board chairmen ranked the social value higher than did the chief educational administrators.

TABLE 42.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN WITH THEOLOGY AS MAJOR FIELD OF STUDY AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SOCIAL SCIENCE AS MAJOR FIELD OF STUDY

Board Chairmen N = 24		Educational Administrators N = 7	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Social	3	Economic
4	Economic	4	Theoretical
5	Theoretical	5	Social
6	Aesthetic	6	Aesthetic

The third category of the independent variable concerned with the major field of study, was a comparison between the value scores of board chairmen with theology as a major field of study, and chief educational administrators with theology as a major field of study. There were twenty-four board chairmen and seven chief educational administrators in this category of the independent variable. Tables 43, 44, and 45 present the data for this category.

In table 43 the means and standard deviations for the six value scores of twenty-four board chairmen and seven chief educational administrators are presented.

TABLE 43.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH THEOLOGY AS MAJOR FIELD OF STUDY

Values	Board Chairmen N = 24		Educational Adminis- trators N = 7		Overall Total N = 31	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.1	5.8	34.9	3.6	32.8	5.4
Economic	39.2	5.2	35.1	6.9	38.3	5.6
Political	40.5	4.3	36.9	3.1	39.7	4.1
Religious	51.9	7.1	57.3	2.8	33.1	6.5
Social	40.4	5.9	38.9	3.1	40.1	5.4
Theoretical	36.0	4.1	36.9	4.8	36.2	4.2

In table 43, the largest differences between the means of the two groups were for the following values: the political, religious, economic, and, to a limited extent, the aesthetic values. The standard deviation for the board chairmen ranged from 4.1 on the theoretical value to 7.1 on the religious value, while the standard deviation for the chief educational administrators ranged from 2.8 on the religious value to 6.9 on the economic value.

Table 44 presents the data on the univariate and the multivariate analysis of variance of the six value scores of board chairmen and chief educational administrators for this category. The F-ratios on the univariate analysis of variance in table 44 showed that for the political value there was a significant difference at

the .05 level of significance. The F-ratio for one and twenty-nine degrees of freedom was 4.18 at the .05 level of significance.

TABLE 44.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH THEOLOGY AS MAJOR FIELD OF STUDY

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 29	46.20	29.12	1.46	NS
Economic	1 & 29	91.82	30.92	2.97	NS
Political	1 & 29	69.13	16.47	4.20	4.18*
Religious	1 & 29	158.70	41.66	3.81	NS
Social	1 & 29	13.54	29.62	.46	NS
Theoretical	1 & 29	4.27	18.13	.24	NS
<b>Multivariate Analysis</b>					
	6 & 24	-	-	2.08	NS

\*: Significant at the .05 level of Significance

All of the values besides the political value showed no significant difference between the means of board chairmen and chief educational administrators at the .05 level of significance. The multivariate analysis of variance in table 44 indicated that there was no overall significant difference at the .05 level of significance between the means of the six values. The data for this category failed to reject the null hypothesis for all the values except for the political value in which case the null hypothesis was rejected at the .05 level of confidence.

A discriminant analysis was conducted on the data comparing the value scores of board chairmen and chief educational administra-

tors with theology as a major field of study. The analysis of the data yielded a total variation of 14.7, which was tested for significance by a chi square with six degrees of freedom at the .05 level of significance. This yielded a critical value of 12.59, which indicated that the total variation was significant at the .05 level of significance. The discriminant function means for the board chairmen was 73.2 as compared to 71.6 for the chief educational administrators. The discriminant function coefficients for the six values were as follows: aesthetic .9, economic 1.9, political 1.7, religious 1.3, social 1.9, and theoretical 1.2. The economic and social values had the highest coefficient, with the aesthetic value as the lowest. The social and economic values contributed the most in discriminating between the values of board chairmen and chief educational administrators. The board chairmen were more social and economical than the chief educational administrators on this category of the independent variable.

The rank order of the six values according to the means of twenty-four board chairmen and seven chief educational administrators is presented in table 45. The rank order of the values for board chairmen were identical to those of the chief educational administrators on two values: the religious and the aesthetic values--the highest and the lowest values. On the other four values they differed with regard to the ranking. The board chairmen ranked the political and economic values higher than did the chief educational administrators. The chief educational administrators ranked

the social and the theoretical values higher than did the board chairmen.

TABLE 45.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH THEOLOGY AS MAJOR FIELD OF STUDY

Board Chairmen N = 24		Educational Administrators N = 7	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Social
3	Social	3	Political
4	Economic	4	Theoretical
5	Theoretical	5	Economic
6	Aesthetic	6	Aesthetic

Tables 38, 41, and 44 presented the data for the univariate and multivariate analysis of variance for the three categories of the independent variable, major field of study. The data from the three categories failed to reject the null hypothesis for all of the values except for the political value in the third category where the null hypothesis was rejected at the .05 level of confidence. A discriminant analysis revealed that the social and economic values discriminated the most between board chairmen and chief educational administrators. Tables 39, 42, and 45, which presented the rank order of the values of the two groups, showed there was agreement on all three categories for the highest and the lowest values, namely, the religious and aesthetic values.

The sixth independent variable that pertained to the seventh null hypothesis had reference to the years of schooling in Seventh-day Adventist educational institutions. Two categories of schooling were compared. The first category referred to those who had sixteen or more years of schooling in Seventh-day Adventist educational institutions. The second category of schooling referred to those who had less than sixteen years of schooling in Seventh-day Adventist educational institutions. The data for these two comparisons is presented in tables 46 through 51.

In tables 46-48 the value scores of eight board chairmen are compared to the value scores of eighteen chief educational administrators based on sixteen years of schooling or more in Seventh-day Adventist institutions.

In table 46 the means and standard deviations of the eight board chairmen are compared to the means and standard deviations of the eighteen chief educational administrators. The largest difference between the means of board chairmen and chief educational administrators was found on the social value. The standard deviation for board chairmen ranged from 4.8 on the social value to 8.5 on the religious value. The standard deviation for educational administrators ranged from 3.6 on the political value to 6.4 on the economic value.

Table 47 presents the data on the univariate and multivariate analysis of variance.

**TABLE 46.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SIXTEEN OR MORE YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS**

Values	Board Chairmen		Educational Adminis- trators		Overall Total	
	N = 8		N = 18		N = 26	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.4	7.7	33.4	4.1	32.8	5.4
Economic	40.4	5.8	40.8	6.4	40.6	6.2
Political	38.9	4.9	39.4	3.6	39.2	4.0
Religious	50.0	8.5	51.9	5.1	51.3	6.3
Social	41.9	4.8	37.5	5.0	38.9	4.9
Theoretical	37.3	4.9	36.6	4.6	36.8	4.7

**TABLE 47.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SIXTEEN OR MORE YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS**

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 24	21.09	29.12	.72	NS
Economic	1 & 24	.79	38.40	.02	NS
Political	1 & 24	.99	16.26	.06	NS
Religious	1 & 24	19.78	39.43	.50	NS
Social	1 & 24	110.43	24.29	4.55	4.26*
Theoretical	1 & 24	2.95	21.94	.13	NS
<b>Multivariate Analysis</b>					
	6 & 19	—	—	.88	NS

\*: Significant at the .05 level of significance

In table 47 the univariate analysis of variance presented a significant difference on the social value with an F-ratio of 4.55 with one and twenty-four degrees of freedom. An F-ratio of 4.26 was needed to be significant at the .05 level of significance. The null hypothesis was rejected for the social value but failed to be rejected for all of the other five values on the univariate analysis of variance at the .05 level of confidence. In table 47 the multivariate analysis of variance indicated that there was no significant difference in the overall comparison of the six values. A discriminant analysis was conducted on the data of the eight board chairmen and the eighteen chief educational administrators, but it proved not to be significant and so no further analysis was undertaken.

A rank order of the values according to the mean scores of eight board chairmen and eighteen chief educational administrators is presented in table 48. The rank order of the values of board chairmen were identical to the rank order of the chief educational administrators on the religious, theoretical, and aesthetic values. The educational administrators had a higher rank order on the economic and political values than did the board chairmen while the board chairmen had a higher rank order on the social value.

The second category of the independent variable, the number of years of schooling in Seventh-day Adventist institutions, related to those board chairmen and chief educational administrators who had less than sixteen years of schooling in Seventh-day Adventist educa-



tional institutions. Tables 49-51 present the data with regard to this category. There were twenty-five board chairmen and twenty-seven chief educational administrators who belonged to this category with an overall total of fifty-two subjects.

TABLE 48.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH SIXTEEN OR MORE YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS

Board Chairmen N = 8		Educational Administrators N = 18	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Economic
3	Economic	3	Political
4	Political	4	Social
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In table 49 the means and standard deviations of the six value scores of the twenty-five board chairmen and twenty-seven chief educational administrators are presented. The means of the board chairmen were compared to the means of the chief educational administrators. The greatest difference between the means was found on the aesthetic and economic values. The aesthetic value had a difference of 2.5 while the economic value had a difference of 2.9. The standard deviation for the board chairmen ranged from 4.7 for the aesthetic and political values to 6.1 for the religious value.

TABLE 49.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN SIXTEEN YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS

Values	Board Chairmen N = 25		Educational Adminis- trators N = 27		Overall Total N = 52	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.0	4.7	34.5	6.0	33.3	5.4
Economic	39.4	4.9	36.5	6.1	37.9	5.5
Political	39.6	4.7	39.8	6.1	39.7	5.5
Religious	52.1	6.1	53.9	5.5	53.1	5.8
Social	39.6	5.5	38.8	6.7	39.2	6.2
Theoretical	37.0	5.2	36.5	6.6	36.7	6.0

In table 50 the data for the univariate and the multivariate analysis of variance of the six value scores of the twenty-five board chairmen and twenty-seven chief educational administrators is presented. The univariate analysis of variance on the six value scores was presented with one and fifty degrees of freedom. To be significant at the .05 level of significance an F-ratio of 4.83 would be required. The differences between the means of the aesthetic and the economic values as noted in table 49 were not found to be significant at the .05 level of significance in table 50. None of the six values proved to have an F-ratio that was significant at the .05 level of significance and thus the data failed to reject the null hypothesis on the univariate analysis of variance. As shown in

table 50 the multivariate analysis of variance was presented with six and forty-five degrees of freedom with an F-ratio of 1.37 which was not significant at the .05 level of significance. The F-ratio needed to be significant on the multivariate analysis of variance with six and forty-five degrees of freedom was 2.30 at the .05 level of significance. The data failed to reject the null hypothesis for the multivariate analysis of variance at the .05 level of confidence.

TABLE 50.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN SIXTEEN YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 50	84.87	29.10	2.92	NS
Economic	1 & 50	110.72	30.44	3.64	NS
Political	1 & 50	.38	39.90	.01	NS
Religious	1 & 50	43.25	33.78	1.28	NS
Social	1 & 50	8.36	37.92	.22	NS
Theoretical	1 & 50	3.77	35.69	.11	NS
<b>Multivariate Analysis</b>					
	6 & 45	-	-	1.37	NS

In table 51 the rank order of the values according to the means of twenty-five board chairmen and twenty-seven chief educational administrators is presented. The twenty-five board chairmen had an identical ranking of values with the twenty-seven chief educational administrators on all six values.

TABLE 51.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS WITH LESS THAN SIXTEEN YEARS OF SCHOOLING IN SEVENTH-DAY ADVENTIST EDUCATIONAL INSTITUTIONS

Board Chairmen N = 25		Educational Administrators N = 27	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Political	2	Political
3	Social	3	Social
4	Economic	4	Economic
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In tables 47 and 50 the data on the univariate and multivariate analysis of variance of the six value scores of board chairmen and chief educational administrators was presented. On the univariate analysis of variance in tables 47 and 50 no value was found to be statistically significant, except for the social value in which case the null hypothesis was rejected for that value. On the multivariate analysis of variance in tables 47 and 50 none of the F-ratios on either of the tables were found to be significant on the .05 level of significance. In tables 48 and 51 the rank order of values for the two categories of the independent variable was presented. In comparing the eight board chairmen in table 48 with the twenty-five board chairmen in table 51, the rank order differed for the political, social, and economic values. The

eighteen chief educational administrators in table 48 differed from the twenty-seven chief educational administrators in table 51 on the political, social, and economic values.

In summary, the data that related to the six independent variables for the seventh null hypothesis was presented in tables 4-51. On all of the six independent variables for the seventh null hypothesis no statistically significant differences were found except for the political value on the third category of the major field of study and for the social value on the first category of years of schooling in Seventh-day Adventist educational institutions.

On the multivariate analysis of variance, statistically significant differences were found on three categories on the independent variables. Categories two and three of the third independent variable, years of administrative experience, proved to be significant at the .05 level of significance. Category four of the fourth independent variable, highest academic degree held, proved to be significant at the .05 level of significance. On the rank order of values, the religious value in every category without exception was placed first. On most of the rank orders the aesthetic value was placed sixth.

The eighth null hypothesis was concerned with the differences between the scores of various groups of chief educational administrators based on the enrollment in Seventh-day Adventist

educational institutions. The null hypothesis stated: There is no significant difference between the scores of different groups of chief educational administrators based on the independent variable of enrollment in academy, college, or university on the six values as measured by the Study of Values scale. The independent variable of enrollment in Seventh-day Adventist educational institutions was divided into two categories. The first category compared the values of residential academy principals on the basis of three groups of enrollment. The first were the principals of schools with 1-180 students, the second group, principals of schools with 181-280 students, and the third group, principals of schools with over 280 students. The second category compared the value scores of college and university presidents on the basis of three groups of enrollment. The first group, from 0-900 students, the second group, from 901-1,500 students, and the third group, over 1,500 students.

In tables 52-54 the data that relates to the first category is presented, that is, the comparison of the values of residential academy principals on the basis of three groups of enrollment.

In table 52 the means and the standard deviations of the six value scores of the three groups of residential academy principals based on the enrollment is presented. In the first group there were eleven principals, in the second, fourteen, and in the third eleven, making a total of thirty-six principals. When comparing the means of the three groups in table 52, the largest difference on the six values was found on the social value. The standard

deviation for group one varied from 2.9 on the theoretical value to 8.4 on the social value. The standard deviation for group two varied from 3.8 on the political value to 7.2 on the theoretical value and the smallest variation was from group three with 5.0 for the aesthetic and the religious values and 5.4 for the theoretical value.

TABLE 52.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY PRINCIPALS BASED ON RESIDENTIAL ACADEMY ENROLLMENT

Values	Group 1 Enrollment 1 - 180 N = 11		Group 2 Enrollment 181 - 280 N = 14		Group 3 Enrollment Over 281 N = 11		Overall Total N = 36	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Aesthetic	33.5	3.2	33.0	7.1	35.6	5.0	38.6	6.3
Economic	40.4	7.8	38.0	5.2	40.2	5.2	39.4	6.1
Political	38.1	5.6	39.0	3.8	39.6	5.2	38.9	4.8
Religious	54.1	3.2	52.1	6.0	51.3	5.0	52.5	5.0
Social	38.9	8.4	40.8	5.2	35.6	5.2	38.6	6.3
Theoretical	35.1	2.9	37.2	7.2	37.7	5.4	36.7	5.7

The univariate and multivariate analysis of variance of the scores of the three groups of academy principals is presented in table 53. The data for the univariate analysis of variance showed that there was no F-ratio that was significant at the .05 level for the six values. In the multivariate analysis there was a significant difference between the value scores of the three groups at the .05 level of significance. The obtained F-ratio for twelve and

fifty-six degrees of freedom was 5.20 while the significant F-ratio was 1.93. The data from the univariate analyses failed to reject the null hypothesis but the null hypothesis was rejected for the multivariate analysis of variance data at the .05 level of confidence.

TABLE 52.—UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY PRINCIPALS BASED ON RESIDENTIAL ACADEMY ENROLLMENT

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 33	22.94	30.59	.75	NS
Economic	1 & 33	21.89	36.95	.59	NS
Political	1 & 33	5.91	23.10	.26	NS
Religious	1 & 33	23.69	25.15	.94	NS
Social	1 & 33	82.12	40.21	2.04	NS
Theoretical	1 & 33	21.14	32.18	.66	NS
<b>Multivariate Analysis</b>					
	12 & 56	-	-	5.20	1.93*

\*: Significant at the .05 level of significance

A discriminant analysis was conducted on the data to determine if the variables discriminated between the three groups of residential academy principals. The analysis of the data for the discriminant analysis yielded a total variation of 93.1 which was tested for significance by a chi square with twelve degrees of freedom at the .05 level of significance. The chi square with twelve degrees of freedom at the .05 level of significance yielded a critical value of 21.05, which indicated that the total variation



was significant at the .05 level of significance. The discriminant function means for the three groups of residential academy principals were, 3119.9543 for group one, 3119.9543 for group two, and 3119.9526 for group three. According to the discriminant function means group three was different from the other two groups. The discriminant function coefficients for the six values were as follows: aesthetic 71.8941, economic 79.0236, political 62.4844, religious 65.2019, social 82.4339, and theoretical 73.7412. The social and the economic values had the highest coefficients and the political value the lowest coefficient. Of the six discriminant function coefficients the social and economic values contributed the most in discriminating group one and two of the residential academy principals from group three.

TABLE 54.—VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY PRINCIPALS BASED ON RESIDENTIAL ACADEMY ENROLLMENT

Group 1 Enrollment 1-180 N = 11		Group 2 Enrollment 181-280 N = 14		Group 3 Enrollment over 281 N = 11	
Rank	Value	Rank	Value	Rank	Value
1	Religious	1	Religious	1	Religious
2	Economic	2	Social	2	Economic
3	Social	3	Political	3	Political
4	Political	4	Economic	4	Theoretical
5	Theoretical	5	Theoretical	5	Social
6	Aesthetic	6	Aesthetic	6	Aesthetic

In table 54 the rank order of the values according to the six mean scores of the three groups of residential academy principals is presented. All three groups had the same value ranking for the religious and aesthetic values, and all three differed on the economic, political, theoretical, and social values.

Tables 55-57 present the data on the six value scores of university and college presidents based on three groups of enrollment. In the first group there were four college and university presidents, in the second group, there were three college and university presidents, and in the third group, there were two college and university presidents, giving an overall total of nine subjects.

In table 55, the means and standard deviations of the six value scores of the three groups of college and university presidents based on enrollment is presented. The largest difference between the means of the three groups of college and university presidents based on enrollment was found on the political value. The standard deviations for the six values of the three groups varied very widely probably due to the small numbers in each group.

In table 56, the univariate and multivariate analysis of variance of the six value scores of three groups of college and university presidents based on enrollment is presented. None of the six value scores was found to be significant at .05 level of significance on the univariate analysis of variance. On the multivariate analysis data with twelve and two degrees of freedom the F-ratio was not significant at the .05 level of significance.

To reject the null hypothesis on the univariate analysis of variance for the six values with two and six degrees of freedom an F-ratio of 5.14 would be required at the .05 level of significance. For the multivariate analysis of variance with twelve and two degrees of freedom an F-ratio of 19.41 would be required to reject the null hypothesis. The data for this category failed to reject the null hypothesis at the .05 level of confidence.

TABLE 55.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY PRESIDENTS BASED ON COLLEGE AND UNIVERSITY ENROLLMENT

Values	Group 1 Enrollment 1-900 N = 4		Group 2 Enrollment 901-1500 N = 3		Group 3 Enrollment Over 1501 N = 2		Overall Total N = 9	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Aesthetic	33.9	6.5	36.5	2.5	33.8	3.9	34.7	5.1
Economic	34.8	7.0	32.8	7.0	31.3	6.7	33.3	6.9
Political	47.1	4.6	38.0	1.0	45.3	9.6	43.7	5.1
Religious	53.3	9.1	58.0	3.0	57.0	4.2	55.7	6.9
Social	35.4	5.0	38.8	1.8	36.5	.7	36.8	3.7
Theoretical	35.6	9.8	35.8	1.9	36.3	8.8	35.8	7.9

In table 57 the rank order of the values of the three groups is presented. All three of the groups agreed on the religious value in the ranking of the six values. The three groups differed on the other five values, that is, on the political, theoretical, social, economic, and aesthetic. Groups two and three did not rank

TABLE 56.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY PRESIDENTS BASED ON COLLEGE AND UNIVERSITY ENROLLMENT

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	2 & 6	7.12	25.97	.27	NS
Economic	2 & 6	8.73	48.01	.18	NS
Political	2 & 6	74.59	26.22	2.85	NS
Religious	2 & 6	21.63	47.79	.45	NS
Social	2 & 6	10.35	13.39	.77	NS
Theoretical	2 & 6	.26	62.00	.00	NS
<b>Multivariate Analysis</b>					
	12 & 2	-	-	1.91	NS

TABLE 57.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF THREE GROUPS OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY PRESIDENTS BASED ON COLLEGE AND UNIVERSITY ENROLLMENT

Group 1 Enrollment 1-900 N = 4		Group 2 Enrollment 901-1500 N = 3		Group 3 Enrollment Over 1501 N = 2	
Rank	Value	Rank	Value	Rank	Value
1	Religious	1	Religious	1	Religious
2	Political	2	Social	2	Political
3	Theoretical	3	Political	3	Social
4	Social	4	Aesthetic	4	Theoretical
5	Economic	5	Theoretical	5	Aesthetic
6	Aesthetic	6	Economic	6	Economic

the aesthetic value on the lowest ranking as had been the case with most of the value rankings.

The data for the univariate and multivariate analysis of variance for the six value scores of chief educational administrators for the two categories on the independent variable of enrollment was presented in tables 53 and 56. The null hypothesis was rejected on the data for the multivariate analysis of variance in table 53. The rank order of the values of the two categories of the three groups of chief educational administrators based on enrollment was presented in tables 54 and 57. In both categories the chief educational administrators ranked the religious value first but disagreed on the ranking of all of the other five values. In table 54 the three groups of residential academy principals ranked the economic value higher than did the three groups of college and university presidents in table 57. The three groups of college and university presidents ranked the political value higher than did the residential academy principals as presented in tables 57 and 54.

The ninth null hypothesis was concerned with the six value scores of residential academy board chairmen as compared to the six value scores of residential academy principals. The null hypothesis stated: There is no significant difference between the scores of residential academy board chairmen and residential academy principals on the six values as measured by the Study of Values scale. The data for the ninth hypothesis is presented in tables 58-60. The value scores of twenty-four residential academy board chairmen are

compared to thirty-six residential academy principals, giving an overall total of sixty subjects in this grouping.

Table 58 presents the means and standard deviations of the six value scores of the residential academy board chairmen and the residential academy principals.

TABLE 58.--MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY BOARD CHAIRMEN AND RESIDENTIAL ACADEMY PRINCIPALS

Values	Board Chairmen N = 24		Educational Adminis- trators N = 36		Overall Total N = 60	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	32.1	5.9	33.9	5.5	33.2	5.7
Economic	39.6	5.0	39.4	6.0	39.5	5.6
Political	39.9	4.8	38.9	4.7	39.3	4.7
Religious	50.9	7.5	52.5	5.0	51.8	6.1
Social	40.4	5.1	38.6	6.5	39.3	6.0
Theoretical	37.2	4.9	36.7	5.6	36.9	5.3

The largest differences between the means of the twenty-four board chairmen and the thirty-six academy principals in table 58 was found on the aesthetic and the social values.

The data on the univariate and multivariate analysis of variance of the six value scores of the residential academy board chairmen and the residential academy principals is presented in table 59. The aesthetic and the social value mean differences as noted in table 58, proved not to be significant at the .05 level of

significance in table 59. None of the six values proved to be significant at the .05 level of significance with one and fifty-eight degrees of freedom. To be significant an F-ratio of 4.0 would be needed with one and fifty-eight degrees of freedom at the .05 level of significance. In table 59 the multivariate analysis of variance data was presented and the obtained F-ratio of 1.36 was not significant at the .05 level of significance. The data for this comparison failed to reject the null hypothesis at the .05 level of confidence.

TABLE 59.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY BOARD CHAIRMEN AND RESIDENTIAL ACADEMY PRINCIPALS

Values	DF	Among Mean Sq.	Within Mean Sq.	F-Ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 58	47.32	32.19	1.47	NS
Economic	1 & 58	.51	31.59	.02	NS
Political	1 & 58	16.27	22.33	.73	NS
Religious	1 & 58	35.75	37.28	.96	NS
Social	1 & 58	45.19	36.03	1.25	NS
Theoretical	1 & 58	4.12	28.45	.14	NS
<b>Multivariate Analysis</b>					
	6 & 53	-	-	1.36	NS

Table 60 presents the rank order of the values of the residential academy board chairmen and the residential academy principals. The twenty-four residential academy board chairmen had an identical ranking of values in table 60 as the thirty-six residential

academy principals on the religious, theoretical, and aesthetic values. The residential board chairmen ranked the social and political values higher than did the principals. The principals ranked the economic value higher than did the board chairmen.

TABLE 60.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST RESIDENTIAL ACADEMY BOARD CHAIRMEN AND RESIDENTIAL ACADEMY PRINCIPALS

Board Chairmen N = 24		Educational Administrators N = 36	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Social	2	Economic
3	Political	3	Social
4	Economic	4	Political
5	Theoretical	5	Theoretical
6	Aesthetic	6	Aesthetic

In tables 58-60 the data on the ninth null hypothesis was presented. The data failed to reject the null hypothesis at the .05 level of confidence.

On the tenth null hypothesis the value scores of college and university board chairmen are compared to the value scores of college and university presidents. The null hypothesis stated: There is no significant difference between the scores of college and university board chairmen and college and university presidents on the six values as measured by the Study of Values scale. The data on this comparison is presented in tables 61-63. The values of



nine board chairmen were compared to the values of nine presidents, giving an overall total of eighteen subjects.

In table 61, the means and standard deviations of the six value scores of the college and university board chairmen and the college and university presidents is presented.

TABLE 61.—MEANS AND STANDARD DEVIATIONS OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY BOARD CHAIRMEN AND COLLEGE AND UNIVERSITY PRESIDENTS

Values	Board Chairmen		Educational Adminis- trators		Overall Total	
	N = 9		N = 9		N = 18	
	Mean	SD	Mean	SD	Mean	SD
Aesthetic	31.3	3.7	34.7	4.6	33.0	4.2
Economic	39.8	5.5	33.3	6.2	36.6	5.8
Political	39.3	5.0	43.7	6.2	41.5	5.6
Religious	53.4	3.5	55.7	6.4	54.6	5.2
Social	39.5	6.2	36.8	3.6	38.1	5.1
Theoretical	36.7	5.9	35.8	6.8	36.3	6.4

The largest differences on the means of board chairmen as compared to the means of presidents in table 61 was found on the aesthetic, the economic, and the political values. The standard deviation varied for the two groups on the six values.

In table 62 the univariate and the multivariate analysis of variance is presented. The data indicated that there was a significant difference on the economic value. With one and sixteen degrees of freedom, the obtained F-ratio was 5.49 while the F-ratio

needed to be significant at the .05 level of significance with one and sixteen degrees of freedom was 4.49. The null hypothesis was, therefore, rejected for the economic value. In table 62 the multivariate analysis of variance indicated that there was no significant difference on the overall comparison of means between the board chairmen and the presidents.

TABLE 62.--UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE OF THE SIX VALUE SCORES OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY BOARD CHAIRMEN AND COLLEGE AND UNIVERSITY PRESIDENTS

Values	DF	Among Mean Sq.	Within Mean Sq.	F-ratio	Level of Significance
<b>Univariate Analysis</b>					
Aesthetic	1 & 16	53.38	17.57	3.04	NS
Economic	1 & 16	186.89	34.07	5.49	4.49*
Political	1 & 16	86.68	31.85	2.72	NS
Religious	1 & 16	22.22	26.76	.83	NS
Social	1 & 16	33.35	25.72	1.30	NS
Theoretical	1 & 16	3.55	40.91	.09	NS
<b>Multivariate Analysis</b>					
	6 & 11	-	-	.07	NS

\*: Significant at the .05 level of significance

A discriminant analysis was conducted on the data of college and university board chairmen, and college and university presidents. The analysis of the data yielded a total variation of 8.06 which was tested for significance with a chi square with six degrees of freedom at the .05 level of significance. The chi square with six degrees of freedom yielded a critical value of 12.59 at the .05 level of significance, which indicated that the total variation was

not significant at the .05 level of significance. No further analyses were undertaken with the data.

The rank order of the values of the college and university board chairmen and college and university presidents is presented in table 63.

TABLE 63.--VALUES RANKED ACCORDING TO THE SIX MEAN SCORES OF SEVENTH-DAY ADVENTIST COLLEGE AND UNIVERSITY BOARD CHAIRMEN AND COLLEGE AND UNIVERSITY PRESIDENTS

Board Chairman N = 9		Educational Administrators N = 9	
Rank	Value	Rank	Value
1	Religious	1	Religious
2	Economic	2	Political
3	Social	3	Social
4	Political	4	Theoretical
5	Theoretical	5	Aesthetic
6	Aesthetic	6	Economic

The nine board chairmen had an identical ranking of values as the nine presidents with regard to the religious and social values. The two groups differed on the political, theoretical, aesthetic, and economic values. The nine board chairmen ranked the economic value second while the presidents ranked the economic value sixth.

#### Summary

This chapter presented the analysis of the data in three types of tables: first, the means and standard deviations for each

comparison; second, the univariate and multivariate analysis of variance; and third, the ranking of the six values according to the mean value scores. A discriminant analysis was conducted for each of the F-ratios that was significant at the .05 level of significance for either the univariate or multivariate analysis of variance.

In table 64 a summary of univariate and multivariate analysis of variance analyses is presented. On the major purpose of the study that encompassed the first six null hypotheses, no significant differences were found on the value scores of board chairmen and chief educational administrators on either the univariate or the multivariate analysis of variance. The data on the major purpose of the study failed to reject the first six null hypotheses at the .05 level of confidence.

On the corollary purposes of the study, hypotheses seven to ten, seven statistical significant differences were found. In table 64 the F-ratio of the univariate analysis of variance led to the rejection of the null hypothesis on three values. First, the political value, indicated by (S\*), listed under the seventh null hypothesis, fifth independent variable, the third category as presented in table 64 referred to theology as the major field of study for board chairmen and chief educational administrators. Second, the social value, indicated by (S\*), listed under the seventh null hypothesis, sixth independent variable, the first category as presented in table 64 referred to sixteen years or more of schooling in Seventh-day Adventist educational institutions.

**TABLE 64.--SUMMARY OF THE UNIVARIATE AND MULTIVARIATE ANALYSIS OF VARIANCE FOR DATA ON TEN NULL HYPOTHESES CONCERNING SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS**

Null Hypotheses	Level of Significance							
	Univariate Analysis							Multivariate Analysis
	DF	Aes.	Econ.	Pol.	Rel.	Soc.	Theo.	DF
Null hypotheses nos. 1 to 6	1 & 76	-	-	-	-	-	-	6 & 71
Null hypothesis no. 7								
1. Independent variable on age								
Category 1 - 0 to 50 yrs.	1 & 41	-	-	-	-	-	-	6 & 36
Category 2 - over 50 yrs.	1 & 33	-	-	-	-	-	-	6 & 28
2. Independent variable on non-administrative experience								
Category 1 - Teaching-Pastor	1 & 17	-	-	-	-	-	-	6 & 12
Category 2 - Pastor/Teaching	1 & 36	-	-	-	-	-	-	6 & 31
3. Independent variable years administrative experience								
Category 1 - 0 to 10 yrs.	1 & 31	-	-	-	-	-	-	6 & 26
Category 2 - 11 to 20 yrs.	1 & 29	-	-	-	-	-	-	6 & 24
Category 3 - over 21 yrs.	1 & 10	-	-	-	-	-	-	6 & 5
4. Independent variable on highest academic degree								
Category 1 - Bachelor's	1 & 26	-	-	-	-	-	-	6 & 21
Category 2 - Master's	1 & 38	-	-	-	-	-	-	6 & 33
Category 3 - Master's & Bachelor's	1 & 66	-	-	-	-	-	-	6 & 61
Category 4 - Master's/Doctorate	1 & 16	-	-	-	-	-	-	6 & 11

TABLE 64 - continued

5. Independent variable major field of study										
Category 1 - Theo./Education	1 & 51	-	-	-	-	-	-	6 & 46	-	
Category 2 - Theo./Social Science	1 & 29	-	-	-	-	-	-	6 & 24	-	
Category 3 - Theo.	1 & 29	-	-	S*	-	-	-	6 & 24	-	
6. Independent variable years of schooling in SDA institutions										
Category 1 - 16 years and more	1 & 24	-	-	-	-	S*	-	6 & 19	-	
Category 2 - less than 16 years	1 & 50	-	-	-	-	-	-	6 & 45	-	
Null hypothesis no. 8										
Independent variable on enrollment										
Category 1 - Academy	1 & 33	-	-	-	-	-	-	12 & 56	S*	
Category 2 - College and University	2 & 6	-	-	-	-	-	-	12 & 2	-	
Null hypothesis no. 9	1 & 58	-	-	-	-	-	-	6 & 53	-	
Null hypothesis no. 10	1 & 16	-	S*	-	-	-	-	6 & 11	-	

DF: degrees of freedom

- : not significant at the .05 level of significance

S\*: significant at the .05 level of significance

Third, the economic value, indicated by (S\*), listed under the tenth null hypothesis in table 64 which referred to the comparison between college and university board chairmen and college and university presidents.

The multivariate analysis of variance in table 64 which compared the total variance of all six values had significant F-ratios on four of the comparisons. The first and second of the four significant F-ratios in table 64 under the seventh null hypothesis, the third independent variable, the second and third category, indicated by (S\*), referred to the number of years of administrative experience. The third F-ratio that was significant on the multivariate analysis of variance in table 64 was listed under the seventh null hypothesis, the fourth independent variable and the fourth category indicated by (S\*). This comparison referred to highest academic degree held by board chairmen and chief educational administrators. The fourth F-ratio, indicated by (S\*), that was significant on the multivariate analysis of variance in table 64 was listed under the eighth null hypothesis and the first category, the comparison referred to the enrollment in the residential academies.

In table 64 neither the multivariate nor the univariate analysis of variance had F-ratios that were significant for the same independent variable on the same category. Table 64 indicated that three of the 126 univariate analyses of variance comparisons were significant at the .05 level of significance. For the multi-

variate analysis of variance, four of the twenty-one comparisons proved to be significant at the .05 level of significance. Table 64 indicated that not one of the null hypotheses were completely rejected by either the univariate or the multivariate analysis of variance.

A summary of the discriminant analysis for several groups was presented for the seven comparisons that were significant on the univariate and multivariate analysis of variance. Two of the seven comparisons were not significant when analysed by the discriminant analysis for several groups and no further analysis was undertaken on these two comparisons. Of the five that were significant on the discriminant analysis, four were comparisons that had been significant for the multivariate analysis of variance, the fifth was significant on the univariate analysis of variance. In three out of the five analyses using the discriminant analysis, the social and economic values contributed the most in differentiating between the board chairmen and the chief educational administrators. The political, social, economic, and theoretical values played a role in one of the five discriminant analyses in distinguishing between board chairmen and chief educational administrators. The religious value played the major role in one of the comparisons while the social value played a major role in another comparison that used the discriminant analysis in discriminating between the values of board chairmen and chief educational administrators.



A summary of the ranking order of the six mean scores of the board chairmen and chief educational administrators is presented in table 65. The board chairmen and chief educational administrators ranked the religious value first on all of the comparisons. The aesthetic value ranked sixth on all of the comparisons between board chairmen and chief educational administrators except on four comparisons of the chief educational administrators. The theoretical value was ranked fifth on all of the comparisons except on three of the nineteen comparisons of the board chairmen. The chief educational administrators ranked the theoretical value fifth on all except seven of the twenty-five comparisons. The economic, political, and social values were ranked in the second, third, and fourth places with no particular ranking apparent for any one of the three values listed.

In table 65, on the major purpose of the study (null hypotheses 1-6) the values of board chairmen and chief educational administrators were identical except for the social and political values. In two comparisons in table 65 the values of board chairmen and educational administrators were identical on all six values in the order of ranking. The two identical rank order comparisons were listed under null hypothesis seven, independent variable six, category two, and null hypothesis seven, independent variable five, category one, in table 65.

A number of comparisons had identical rankings within and between the two groups of board chairmen and chief educational

administrators . Two groups of chief educational administrators had identical rankings with the thirty-three board chairmen listed under null hypotheses one to six in table 65. In table 65 the first of the two groups of chief educational administrators was listed under null hypothesis seven, independent variable two, category one--these were chief educational administrators who had pastoral and teaching experience as their non-administrative background. The second group with identical value rankings with the thirty-three board chairmen were listed in table 65 under null hypothesis eight, category 1b--these were fourteen residential academy principals with enrollment in the academies between 181 and 280 students.

Similarly there were three groups of board chairmen with identical value rankings to the forty-five chief educational administrators as listed under null hypotheses one to six in table 65. The first group of board chairmen were listed in table 65 under null hypothesis seven, independent variable four, categories two and four--this group consisted of eight board chairmen with master's degrees as the highest academic degree held. The second group of board chairmen were listed in table 65 under null hypothesis seven, independent variable five and categories 1-3, this referred to a group of twenty-four board chairmen with theology as their major field of study. The third group of board chairmen listed in table 65 under null hypothesis seven, independent variable six, category two--referred to twenty-five board chairmen with less

TABLE 65.--SUMMARY OF THE RANKING ACCORDING TO THE SIX MEAN SCORES OF THE DATA ON TEN NULL HYPOTHESES CONCERNING SEVENTH-DAY ADVENTIST BOARD CHAIRMEN AND CHIEF EDUCATIONAL ADMINISTRATORS

Null Hypotheses	Board Chairmen							Educational Administrators						
	Ranking Order							Ranking Order						
	1	2	3	4	5	6	N	1	2	3	4	5	6	N
Null hypotheses 1 to 6	R	S	P	E	T	A	33	R	P	S	E	T	A	45
Null hypothesis 7														
1. Independent variable on age														
Category 1 - 0 to 50 yrs.	R	S	P	E	T	A	10	R	P	E	S	T	A	33
Category 2 - over 50 yrs.	R	E	P	S	T	A	23	R	P	S	E	T	A	12
2. Independent variable on non-administrative experience														
Category 1 - Teaching-Pastor	R	E	T	P	S	A	7	R	S	P	E	T	A	12
Category 2 - Pastor/Teaching	R	P	E	T	S	A	21	R	P	S	E	T	A	17
3. Independent variable years administrative experience														
Category 1 - 0 to 10 yrs.	R	S	P	E	T	A	14	R	E	P	S	T	A	19
Category 2 - 11 to 20 yrs.	R	P	E	S	T	A	15	R	P	S	E	T	A	16
Category 3 - over 21 yrs.	R	E	S	T	P	A	4	R	P	S	T	E	A	8
4. Independent variable on highest academic degree														
Category 1 - Bachelor's	R	E	S	P	T	A	25	R	P	E	S	T	A	3
Category 2 - Master's	R	P	S	E	T	A	8	R	E	P	S	T	A	32
Category 3 - Master's & Bachelor's	R	S	P	E	T	A	33	R	E	P	S	T	A	35
Category 4 - Master's/Doctorate	R	P	S	E	T	A	8	R	P	S	A	T	E	10

TABLE 65 - continued

<b>5. Independent variable major field of study</b>															
Category 1 - Theo./Education	R	P	S	E	T	A	24	R	P	S	E	T	A	29	
Category 2 - Theo./Social Science	R	P	S	E	T	A	24	R	P	E	T	S	A	7	
Category 3 - Theo.	R	P	S	E	T	A	24	R	S	P	T	E	A	7	
<b>6. Independent variable years of schooling in SDA institutions</b>															
Category 1 - 16 years and more	R	S	E	P	T	A	8	R	E	P	S	T	A	18	
Category 2 - less than 16 years	R	P	S	E	T	A	25	R	P	S	E	T	A	27	
<b>Null hypothesis 8</b>															
Category 1a - Academy								R	E	S	P	T	A	11	
Category 1b - Academy								R	S	P	E	T	A	14	
Category 1c - Academy								R	E	P	T	S	A	11	
Category 2a - College & University								R	P	T	S	E	A	4	
Category 2b - College & University								R	S	P	A	T	E	3	
Category 2c - College & University								R	P	S	T	A	E	2	
<b>Null hypothesis 9</b>															
	R	S	P	E	T	A	24	R	E	S	P	T	A	36	
<b>Null hypothesis 10</b>															
	R	E	S	P	T	A	9	R	P	S	T	A	E	9	

A: aesthetic value  
E: economic value  
P: political value  
R: religious value

S: social value  
T: theoretical value  
N: total in group

than sixteen years of schooling in Seventh-day Adventist educational institutions. The three groups of board chairmen had identical value rankings with the forty-five chief educational administrators. There were a number of value rankings that were identical within each of the two groups, either board chairmen or chief educational administrators, but these rankings were not listed as they were not germane to the study.

The summary of this chapter focused on the univariate and multivariate analysis of variance, the discriminant analysis for several groups and on the ranking order of the values of board chairmen and chief educational administrators.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary, conclusions, and recommendations of the study. The sections of the chapter are discussed in order with appropriate sub-headings for each section. The summary and sub-headings are discussed in the first section of the chapter.

#### Summary

The summary is divided into four sections describing briefly 1) the purpose, 2) review of literature, 3) instrumentation, population, and limitations, and 4) the analysis of data and the findings of the study. The purpose of the study is briefly discussed as the first sub-heading of the summary.

#### Purpose

The main purpose of this study was to determine if there were any significant differences in the six value scores of board chairmen and chief educational administrators of Seventh-day Adventist residential academies, colleges, and universities, as measured by the Study of Values scale. The corollary purposes were divided into five considerations: first, to describe the values of Seventh-day Adventist board chairmen and chief educational administrators: second, to determine if there were any significant differences in the six value scores of board chairmen and chief

educational administrators based on the independent variables of age, non-administrative experience, years of administrative experience, highest academic degree held, major field of study, and the number of years of schooling in Seventh-day Adventist educational institutions; third, to determine if there were any significant differences in the six value scores of chief educational administrators based on the independent variable of enrollment in the educational institutions; fourth, to determine if there were any significant differences in the six value scores of residential academy board chairmen and residential academy principals; fifth, to determine if there were any significant differences in the value scores of college and university board chairmen, and college and university presidents.

The rationale of the study stemmed from the concept that educational institutions, whether viewed as professional organizations or as social systems, are normative organizations. For a normative organization to function effectively a high degree and a wide range of value consensus are deemed essential. This study investigated the consensus of values between board chairmen and chief educational administrators in Seventh-day Adventist educational institutions.

Ten hypotheses were developed; six referred to the major purpose of the study, and four to the corollary purposes of the study. These ten hypotheses were listed in the first chapter of this study.

The review of the literature is summarized in the following section of the summary.

#### Review of Literature

The review of the literature for the study was divided into three sections. The first section dealt with the general literature on values, the second dealt with the values of board chairmen, and the third dealt with the values of educational administrators.

The complex nature of values has defied a generally acceptable definition of values. Due to the complexity of values, social scientists ignored the empirical study of values for many years, but recently a number of studies have been undertaken in this field. Values are not directly accessible but are manifested in overt behavior and in the choices that individuals make. Recognition that values play a definitive role in decision making and human behavior has led to the giving of increased attention to the study of values of educational leaders, and the rapid changes in societal values have given greater impetus to the study of values as they affect the policies of educational institutions.

The literature did not deal directly with the values of board chairmen, those particular values being touched on only incidentally as a part of the studies of the values of board members. The main emphasis in the literature relating to board chairmen was on their role and effectiveness in board meetings. The literature indicated that conflict on the board was due mainly to different



value orientations held by the board members. In the present study the board chairmen were a highly homogeneous group. This would suggest a distinct value profile for Seventh-day Adventist board chairmen.

Concerning the educational administrators, the literature indicated that they have a unique value profile, different from any other occupational groups studied. The literature revealed that educational leaders have been strongly influenced by the values of the business world, particularly the economic and political values. It was found that conflicts that occurred in educational administration could be largely traced to underlying value conflicts. The literature indicated that factors such as age, major field of study, highest academic degree held, and size of school influenced the values held by educational administrators. It was, however, in the decision-making process where the congruency or incongruency of values of board chairmen and educational administrators had its greatest impact.

The third section of the summary deals with the instrumentation, population, and limitations of the study.

#### Instrumentation, Population, and Limitations

The instrument used in this study was the Allport, Vernon, and Lindzey, A Study of Values: A Scale for Measuring the Dominant Interest in Personality (1960). The Study of Values scale together with two letters and an information sheet were mailed in January, 1976, to fifty-two board chairmen and fifty-nine chief educational

administrators in the United States of America and Canada. While a total of ninety-six subjects responded, only eighty four Study of Values scales and information sheets were actually returned, and of these seventy-eight were found to be usable. Thirty-three usable responses were from board chairmen, or 63.4 percent, and forty-five were from chief educational administrators, or 76.2 percent, giving a total response of 70.2 percent. The responses came from all of the ten union conferences covered by the study and represented a geographic spread from all parts of the United States of America and Canada. Three limitations were listed for the study: the small size of the population, the obtained sample was not a random sample, and the comparisons were not between equal size groups. These limitations must be borne in mind when interpreting the results.

The analysis of the data and the findings are presented in the final section of the summary.

#### Analysis of Data and Findings

In analyzing the data two statistical procedures were used, a one-way multivariate analysis of variance and a discriminant analysis for several groups. The multivariate analysis of variance computer program made provision for the univariate analysis of variance of each of the six dependent variables. The discriminant analysis for several groups was used for all the comparisons that were significant at the .05 level of significance for either the univariate or multivariate analysis of variance.

The data were presented in the form of three tables for

each of the comparisons undertaken for the study. The first table presented the means and standard deviations for the groups in the comparison, including the overall mean and standard deviation. The second table presented the univariate and multivariate analysis of variance for each comparison. The third table presented the ranking order of the values of the groups according to the means for the groups in the comparison.

The findings on the main purpose of the study failed to reject the six null hypotheses at the .05 level of confidence. The seventh null hypothesis was rejected at the .05 level of confidence on five of the comparisons that were listed for the six independent variables. The F-ratio was significant at the .05 level three times for the multivariate analysis of variance and twice on the univariate analysis of variance. Two of the three statistically significant F-ratios on the multivariate analysis of variance were for two categories of the independent variable, years of administrative experience. The two categories which compared the value scores of board chairmen and chief educational administrators were the following: eleven to twenty years of administrative experience and over twenty years of administrative experience. The third significant F-ratio for the multivariate analysis of variance was for one category on the independent variable, highest academic degree held. This category compared the six values scores of board chairmen with master's degrees and chief educational administrators with doctor's degrees.

There were two significant F-ratios on the univariate analysis of variance comparisons. The first was for the political value when board chairmen and chief educational administrators with theology as major field of study were compared. The second was for the social value when board chairmen and chief educational administrators with sixteen or more years of schooling in Seventh-day Adventist educational institutions were compared.

The eighth null hypothesis was rejected on the multivariate analysis of variance at the .05 level of confidence when three groups of residential academy principals were compared according to the enrollment in the residential academies. The second comparison between three groups of college and university presidents according to enrollment failed to reject the null hypothesis at the .05 level of confidence.

The data for the ninth null hypothesis, the comparison of six value scores of residential academy board chairmen and residential academy principals, failed to reject the null hypothesis at the .05 level of confidence.

The tenth null hypothesis, which compared the six value scores of college and university board chairmen with college and university presidents, was rejected at the .05 level of confidence on the economic value.

In summary, the null hypothesis was rejected at the .05 level of confidence on three of the 126 value score comparisons for the univariate analysis of variance. On the multivariate analysis

of variance the null hypothesis was rejected at the .05 level of confidence on four of the twenty-one comparisons.

The seven comparisons that were statistically significant on the univariate and multivariate analysis of variance were further analysed by a discriminant analysis for several groups. Five of the seven comparisons proved to be significant at the .05 level for the discriminant analysis. The findings indicated that the social and economic values contributed the most in differentiating between board charimen and chief educational administrators.

The board chairmen values ranked in the following order: religious, social, political, economic, theoretical, and aesthetic. The chief educational administrators had the following ranking of values: religious, political, social, economic, theoretical, and aesthetic. Thus the values were very similar for both groups. In examining the value rankings for all of the comparisons the religious value was ranked first. The theoretical and aesthetical values were ranked fifth and sixth respectively on almost all of the comparisons. The greatest differences in ranking the six values on all of the comparisons was for the economic, political, and social values.

The conclusions and implications of the study are presented together in the second section of this chapter.

### Conclusions

From an analysis of the data, the following conclusions were reached with regard to the values of the board chairmen and chief

educational administrators as measured by the Study of Values scale:

1. The findings from the data on the first six null hypotheses reported no significant differences between the mean scores of board chairmen and chief educational administrators. The findings from the data on the last four null hypotheses, that referred to the corollary purposes of the study, reported that there were very few significant differences between the value scores of board chairmen and chief educational administrators. The findings suggested a high degree of congruency between the values scores of board chairmen and chief educational administrators. The researcher concluded that there was a high degree of congruency and unity between the values of board chairmen and chief educational administrators in the study. The findings came as a surprise to the researcher, who by discussion, observation, and a review of the literature was led to believe that there were marked differences between the values of the two groups in the study.

2. The ranking order of the six values of chief educational administrators differed from the ranking order of the values of other groups of educational administrators cited in the literature. The chief educational administrators in this study had a high religious, political, and social value orientation while the literature cited a high economic and political value orientation for educational administrators in other studies. In the present study the chief educational administrators' value orientation agreed with

the religious and aesthetic value ranking of Ohio school principals (Cyphert, 1961). Seventh-day Adventist chief educational administrators in this study had a unique value ranking that was different from any other groups of educational administrators cited in the literature.

3. The values of board chairmen could not be compared to other groups of board chairmen due to the fact that there seemed to be no studies reported in the literature on the values of board chairmen. However, a study on the values of clergymen (Allport, Vernon & Lindzey, 1970, p. 14) indicated that there was a similarity between the values of board chairmen in this study and values of clergymen in other studies. The value rankings of the board chairmen in this study (who were also clergymen) was identical to the three highest value rankings of clergymen in other studies on the religious, social, and political values. The greatest difference between the two groups was on the economic value, that was ranked in fourth position by the board chairmen and in the sixth position by the clergymen. The researcher concluded that the Seventh-day Adventist board chairmen in this study had a similar value ranking to clergymen, except for the comparatively higher ranking the board chairmen gave to the economic value.

4. The findings from the discriminant analysis indicated that of the six values, the social and economic values contributed the most in differentiating between board chairmen and chief educational administrators in the study. In the five comparisons where

there were significant statistical differences between the value scores of board chairmen and chief educational administrators it was mainly the social and economic values that accounted for the largest differences between the two groups. It was concluded that where there were significant statistical differences between the two groups in the study, these differences were largely accounted for by the social and economic values and that in some comparisons one group was more socially and economically oriented than the other group.

5. The comparisons on the six independent variables of the seventh null hypothesis indicated that only one of the independent variables led to different value orientations between board chairmen and chief educational administrators. The independent variable, years of administrative experience, revealed a statistically significant difference between the two groups with more than ten years of administrative experience. It was concluded that board chairmen and chief educational administrators with more than ten years of administrative experience had greater value differences than those with less than ten years of administrative experience.

6. The data that compared three groups of residential academy principals according to enrollment led the researcher to conclude that the findings agreed with the literature that principals of smaller schools had different value orientations than principals of larger schools. In the present study, the value orientations of principals of schools with less than 280 students differed on the



social and economic values from the principals of schools with over 280 students. The data analysis indicated that the principals of the smaller schools were more socially and economically oriented than the principals of the larger schools.

The implications that follow from the conclusions are briefly discussed in the following sub-section.

#### Implications

The high degree of similarity between the values of board chairmen and chief educational administrators implies that a strong basis for general consensus on the major issues in the Seventh-day Adventist educational system exists. The high degree of consensus lays the groundwork for agreement on such issues as administrative policy, curriculum, fiscal policy, goals and objectives, and personnel. The congruency of values should lead to reciprocal trust between the board chairmen and chief educational administrators when plotting the future course of Seventh-day Adventist educational institutions.

The finding that Seventh-day Adventist board chairmen and chief educational administrators have unique value orientations has implications for the training of church and educational leaders. If the unique value orientation is important to the Seventh-day Adventist church then the training and educating of church and educational leaders is one of the most urgent tasks of the church in an age of rapidly changing values.

The main differences in value orientations between the

various sub-groups related to the social and economic values. The social value refers to a concern for human relationships while the economic value emphasizes the pragmatic and the practical aspects of an issue. This suggests that when conflict develops between the sub-groups it would most likely be on issues concerning human relationships and practical matters.

The finding that principals of residential academies with less than 280 students differ from the principals of residential academies with over 280 students with regard to the social and economic values has implications for the schooling system. This could suggest that the principals of the smaller residential academies emphasized values, particularly the social, that are important for education, but which were not so highly regarded by the principals of the larger residential academies. This finding could have implications regarding the optimum size of residential academies.

The final section of this chapter is concerned with the recommendations of the study.

#### Recommendations

The following recommendations emerge from this study:

1. That further study be undertaken to determine the reasons for the high value congruency between board chairmen and chief educational administrators in the Seventh-day Adventist educational institutions in this study.

2. That the study of values and role of values in decision

making be given a place in the future training of church and educational administrators.

3. That study be given to determining the place of aesthetics in the curriculum for the training of church and educational administrators. This recommendation is based on the finding that both board chairmen and chief educational administrators ranked the aesthetic value the lowest of the six values that were measured.

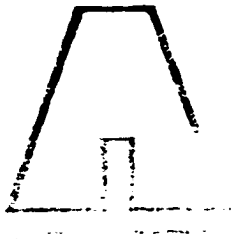
4. That further study be undertaken in determining the influence of years of schooling in Seventh-day Adventist educational institutions on the values of students. Are there certain periods when schooling has a greater influence on the values of students than other periods? Do the residential academies have a greater influence on the values of students than the day academies? What is the role of the college in influencing the values of students?

5. That study be undertaken to determine the values of other groups in the Seventh-day Adventist educational system, for example, the values of parents, teachers, and board members.

The original purpose of the study was to compare the six value scores of Seventh-day Adventist board chairmen and chief educational administrators as measured by the Study of Values scale. Five corollary purposes were developed based on a number of independent variables. The completed research meets the purposes of the study and suggests recommendations which, though not exhaustive, indicates some areas for further study.

**APPENDIX A**  
**COVER LETTERS TO RESPONDENTS**

-



Andrews University Berrien Springs, Michigan 49104 (616) 471-7771

January 9, 1976

Research is basic to the improvement of the educational profession. As coordinator of the educational administration program at Andrews University, I am interested in studies which may lead to a better understanding of the administrative milieu or to an improvement of administrative techniques in the Seventh-day Adventist educational system.

I am, therefore, asking for your cooperation in responding to the attached scale and information sheet pertaining to a study being conducted by David Birkenstock, a doctoral candidate in educational administration at Andrews University. The purpose of the study is to make certain comparisons between board chairmen and educational administrators in Seventh-day Adventist academies, colleges and universities.

We thank you for your cooperation in this important study.

Sincerely yours,

Rudolf E. Klimes, Advisor  
Professor of Education  
Coordinator of Educational Administration

REK/vmb-

F-4 Garland Apartments

Berrien Springs, MI 49103

January 12, 1976

Dear Board Chairman:

As research is basic to the improvement of educational administration, I am asking for your cooperation in this study. The information requested on this information sheet and the enclosed scale will be used in making certain comparisons between educational administrators and board chairmen in Seventh-day Adventist educational institutions. The information obtained will be used only for research purposes and neither your identity nor that of your academy, college or university will be revealed.

A response to the enclosed scale takes about twenty minutes of your time. No attempt will be made to identify you or your educational institution for the purpose of comparing, and there are no "right" or "wrong" answers to the enclosed scale. The number on the scale is solely for the purpose of keeping track of the number of returned responses.

Please use the enclosed addressed envelope for returning the completed scale and information sheet. A response within two weeks will greatly facilitate the study.

Thank you for your time and help.

Sincerely yours,

David Birkenstock  
Doctoral Candidate, Andrews University

DB/vmb

F-4 Garland Apartments

Berrien Springs, MI 49103

January 12, 1976

Dear Educational Administrator:

As research is basic to the improvement of our profession, I am asking for your cooperation in this study. The information requested in this information sheet and the enclosed scale will be used in making certain comparisons between educational administrators and board chairmen in Seventh-day Adventist educational institutions. The information obtained will be used only for research purposes and neither your identity nor that of your academy, college or university will be revealed.

A response to the enclosed scale takes about twenty minutes of your time. No attempt will be made to identify you or your educational institution for the purpose of comparing, and there are no "right" or "wrong" answers to the enclosed scale. The number on the scale is solely for the purpose of keeping track of the number of returned responses.

Please use the enclosed addressed envelope for returning the completed scale and information sheet. A response within two weeks will greatly facilitate the study.

Thank you for your time and help.

Sincerely yours,

David Birkenstock  
Doctoral Candidate, Andrews University

DB/vmb

**APPENDIX B**  
**PERSONAL DATA SHEETS**



BOARD CHAIRMAN INFORMATION SHEET

Please check the appropriate block for each section:

- A. Age Up to and including 35 years ( ) 1  
36 - 50 years ( ) 2  
51 years and over ( ) 3
- B. Number of years of full time service in non-administrative positions
- |                                 |                                     |
|---------------------------------|-------------------------------------|
| Teacher/Professor . . . . .     | None ( ) 4                          |
|                                 | Up to and including 10 years ( ) 5  |
|                                 | 11 years and over ( ) 6             |
| Pastor/Evangelist . . . . .     | None ( ) 7                          |
|                                 | Up to and including 10 years ( ) 8  |
|                                 | 11 years and over ( ) 9             |
| Other--please specify . . . . . | None ( ) 10                         |
|                                 | Up to and including 10 years ( ) 11 |
|                                 | 11 years and over ( ) 12            |
- C. Number of years of administrative experience Up to and including 10 years ( ) 13  
11 - 20 years ( ) 14  
21 years and over ( ) 15
- D. Highest academic degree held None ( ) 16  
Bachelor's ( ) 17  
Master's ( ) 18  
Doctorate ( ) 19
- E. Major field of study of highest degree held
- |                       |
|-----------------------|
| Business ( ) 20       |
| Education ( ) 21      |
| Language ( ) 22       |
| Music or Art ( ) 23   |
| Science ( ) 24        |
| Social Science ( ) 25 |
| Theology ( ) 26       |
| Other ( ) 27          |
- F. Number of years of schooling in Seventh-day Adventist institutions. Please check one block for each educational level.
- |                                    |              |                     |                    |
|------------------------------------|--------------|---------------------|--------------------|
| Elementary School                  | None ( ) 28, | 1 - 4 years ( ) 29, | 5 - 8 years ( ) 30 |
| Academy . . . . .                  | None ( ) 31, | 1 - 2 years ( ) 32, | 3 - 4 years ( ) 33 |
| College . . . . .                  | None ( ) 34, | 1 - 2 years ( ) 35, | 3 - 4 years ( ) 36 |
| Graduate School<br>or equivalent . | None ( ) 37, | 1 - 2 years ( ) 38, | 3 - 4 years ( ) 39 |

EDUCATIONAL ADMINISTRATOR INFORMATION SHEET

Please check the appropriate block for each section:

- A. Age Up to and including 35 years ( ) 1  
36 - 50 years ( ) 2  
51 years and over ( ) 3
- B. Number of years of full time service in non-administrative positions
- |                                 |                                     |
|---------------------------------|-------------------------------------|
| Teacher/Professor . . . . .     | None ( ) 4                          |
|                                 | Up to and including 10 years ( ) 5  |
|                                 | 11 years and over ( ) 6             |
| Pastor/Evangelist . . . . .     | None ( ) 7                          |
|                                 | Up to and including 10 years ( ) 8  |
|                                 | 11 years and over ( ) 9             |
| Other--please specify . . . . . | None ( ) 10                         |
|                                 | Up to and including 10 years ( ) 11 |
|                                 | 11 years and over ( ) 12            |
- C. Number of years of administrative experience Up to and including 10 years ( ) 13  
11 - 20 years ( ) 14  
21 years and over ( ) 15
- D. Highest academic degree held None ( ) 16  
Bachelor's ( ) 17  
Master's ( ) 18  
Doctorate ( ) 19
- E. Major field of study of highest degree held
- |                       |
|-----------------------|
| Business ( ) 20       |
| Education ( ) 21      |
| Language ( ) 22       |
| Music or Art ( ) 23   |
| Science ( ) 24        |
| Social Science ( ) 25 |
| Theology ( ) 26       |
| Other ( ) 27          |
- F. Number of years of schooling in Seventh-day Adventist institutions. Please check one block for each educational level.
- |                                    |              |                     |                    |
|------------------------------------|--------------|---------------------|--------------------|
| Elementary School                  | None ( ) 28, | 1 - 4 years ( ) 29, | 5 - 8 years ( ) 30 |
| Academy . . . . .                  | None ( ) 31, | 1 - 2 years ( ) 32, | 3 - 4 years ( ) 33 |
| College . . . . .                  | None ( ) 34, | 1 - 2 years ( ) 35, | 3 - 4 years ( ) 36 |
| Graduate School<br>or equivalent . | None ( ) 37, | 1 - 2 years ( ) 38, | 3 - 4 years ( ) 39 |
- G. To be completed by academy principals only:
- |   |                              |
|---|------------------------------|
| Present enrollment in the academy you serve | 1 - 180 students ( ) 40      |
|   | 181 - 280 students ( ) 41    |
|   | 281 students and over ( ) 42 |
- H. To be completed by college or university presidents only:
- |   |                               |
|---|-------------------------------|
| Present enrollment in the college or university you serve | 1 - 900 students ( ) 43       |
|   | 901 - 1500 students ( ) 44    |
|   | 1501 students and over ( ) 45 |

**APPENDIX C**  
**FOLLOW-UP LETTERS**

BOARD CHAIRMAN/EDUCATIONAL ADMINISTRATOR STUDY

Please check the appropriate box:

I need another set of materials ☐

I have already mailed the materials ☐

I plan to have the materials mailed by  
March 18, 1976 ☐

F-4 Garland Apartments

Berrien Springs, MI 49103

March 8, 1976

During January I wrote requesting you to respond to a scale and information sheet regarding a study I am conducting on board chairmen and educational administrators. According to my records I have not received your response and wonder if you could complete and return the forms I sent you as I urgently need the data to complete my study.

It may be that, due to the vagaries of the postal service, you did not receive a copy of the materials, or you may have misplaced them. In either case I will be pleased to send another set of the materials. Please use the enclosed card to indicate whether you need another set of the materials or to indicate that you have already returned them.

I recognize that you are extremely busy and that this type of request is low on the priority list, but I would certainly much appreciate a response as it is vital to the study.

Thank you for your time and attention.

Sincerely yours,

David Birkenstock  
Doctoral Candidate, Andrews University

F-4 Garland Apartments  
Berrien Springs, Mi 49103  
February 10, 1976

A few weeks ago I mailed you a letter and materials related to a study on the comparisons between board chairmen and educational administrators. I recognize that you are very busy but if you could take a few minutes to complete the information sheet and scale and return these to me I would be very grateful. Your response is vital to my study.

It is possible that you have already responded and that our letters have crossed in the mail. If this is the case, please ignore this reminder.

Your time and help is greatly appreciated.

Sincerely yours,

David Birkenstock  
Doctoral Candidate,  
Andrews University

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tors, and School Board Members." Ed.D. dissertation,  
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## VITA

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<b>Schooling</b>	Helderberg College High School, Somerset West, South Africa. Matriculated 1951
<b>College and University</b>	Helderberg College, Somerset West, South Africa Four-year Education Diploma 1955 Majors: History and Sociology  University of South Africa, Pretoria, South Africa B.A. 1964 Majors: History and Biblical Studies  University of Potchefstroom for CHO, Potchefstroom, Transvaal, South Africa B.Ed. 1966 Major: Empirical Education  Andrews University, Berrien Springs, Michigan M.A. 1974. Educational Administration Ed.D. 1976. Educational Administration
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<b>Professional Memberships</b>	Phi Delta Kappa COVSA--Christelike Opvoedkundevereniging van Suid-Afrika